

IN THE
Supreme Court of the United States

October Term, 1979

Nos. **79-658**

DEERING MILLIKEN RESEARCH CORPORATION
and MOULINAGE ET RETORDERIE DE CHAVANOZ,
Petitioners,

v.

DUPLAN CORPORATION, *et al.*,
Respondents.

—and—

DEERING MILLIKEN, INC.,
Petitioner,

v.

DUPLAN CORPORATION, *et al.*,
Respondents.

—and—

ATELIERS ROANNAIS DE CONSTRUCTIONS
TEXTILES, *et al.*,
Petitioners,

v.

DUPLAN CORPORATION, *et al.*,
Respondents.

**JOINT APPENDIX TO PETITIONS
FOR WRIT OF CERTIORARI**

[Counsel for the several Petitioners are listed overleaf.]

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Memorandum Opinion of the District Court

[Reported at 444 F. Supp. 648 (D.S.C. 1977)]

[648] The DUPLAN CORPORATION, et al.,

Plaintiffs,

v.

DEERING MILLIKEN, INC., Deering Milliken Research Corporation, Moulinage et Retorderie de Chavanoz, Ateliers Roannais de Constructions Textiles, and ARCT, Inc.,

Defendants.

Civ. A. No. 71-306.

United States District Court,
D. South Carolina,
Spartanburg Division.

July 29, 1977.

[657] **MEMORANDUM OF DECISION**

DUPREE, District Judge.

This patent-antitrust litigation consisting of thirty-seven separate actions consolidated for purposes of trial has been tried to the court without a jury on the liability issues only, and in this memorandum of decision the court will record its findings of fact and conclusions of law in compliance with Rule 52(a), F.R.Civ.P. Jurisdiction is based on 28 U.S.C. §§ 1331, 1332, 1337, 1338, 2201 and 2202.

HISTORY OF THE LITIGATION

The first of the many complaints involved here was filed in the Spartanburg Division, United States District Court for the District of South Carolina, on August 8, 1968, as Case No. 68-705. In this original suit Deering Milliken Research Corporation (DMRC) and Moulinage et Retorderie de Chavanoz (Chavanoz) sought recovery of royalties alleged to be due by Textured Fibres, Inc., as a sub-licensee of DMRC which in turn was the exclusive licensee in the United States of certain apparatus and process patents issued to Chavanoz in the United States and relating to the false twist texturing of synthetic yarns.¹ Similar suits were thereafter instituted by DMRC and Chavanoz against various other textile manufacturers (Throwsters) engaged in the yarn texturing business.

On November 25, 1969, the Duplan Corporation instituted in the United States District Court for the Southern District of New York the first of a series of actions by the Throwsters against DMRC and Chavanoz attacking the validity of the Chavanoz patents and asserting claims under the antitrust laws. Joined as defendants with DMRC and Chavanoz in these Throwster actions were Deering Milliken, Inc. (DMI), of which DMRC is a corporate subsidiary, Ateliers Roannais de Constructions Textiles (ARCT—France), a French manufacturer of textile machinery, and ARCT, Inc., a corporate subsidiary of ARCT—France organized under the laws of North Carolina for the purpose of selling in the United States the textile machinery manufactured by ARCT—France and embodying the Chavanoz patents. These actions by the Throwsters were followed

¹ For a more detailed explanation of yarn texturing generally and "false twist texturing" see Appendix A attached hereto.

by countersuits and counterclaims by DMRC and Chavanoz for unpaid royalties and patent infringement.

At that time the thirty-seven actions were pending in the federal courts in South Carolina, North Carolina, Virginia and New York. After treatment by various United States District Courts and a Panel on Multi-District Litigation all of the cases, which by this time involved generally the same basic issues of unpaid royalties, patent validity and infringement, patent misuse and alleged antitrust violations, were consolidated in the District of South Carolina in 1971 as Civil Action No. 71-306. The thirty-seven actions are listed in Appendix B attached hereto.²

[658] Assigned originally to the Honorable Donald Russell, these cases were re-assigned to the Honorable Robert W. Hemphill of the District of South Carolina upon Judge Russell's elevation to a seat on the Court of Appeals for the Fourth Circuit in 1971. Thereafter Judge Hemphill assumed charge of the litigation, held numerous hearings, ruled on innumerable motions involving procedural, evidentiary and summary judgment matters and personally presided over the taking of a massive volume of deposition testimony in this country and in France. A summary of the previously-reported rulings and decisions in the case is attached as Appendix C.

The prodigious work of Judge Hemphill is summarized in a footnote to one of his decisions, *Duplan Corporation v.*

² Several of the parties to these actions have undergone corporate name changes during the pendency of the litigation, and during the course of the trial the Duplan Corporation has become involved in reorganization proceedings under the Bankruptcy Act. An appropriate order noting these changes will be entered, but for the sake of convenience the original names of the parties will be used throughout this memorandum.

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Deering Milliken, Inc., 400 F.Supp. 497 at page 502 (D.S.C.1975). That case was concerned with a recusal motion filed by counsel for DMRC, DMI and Chavanoz which after characteristically careful and painstaking consideration Judge Hemphill denied. The decision was not appealed. Because of the press of other duties (see 400 F.Supp. at page 526, Footnote 159) Judge Hemphill thereafter asked to be relieved from further duties in this litigation, and the same was assigned to this writer.

Pre-trial conferences were held at Raleigh, North Carolina, on March 26 and June 4, 1976. The Throwsters who were aligned in interest on one side of the case were designated as plaintiffs and the parties opposing the Throwsters, DMRC, DMI, Chavanoz, ARCT-France and ARCT, Inc., were designated as defendants and will be so referred to during the course of this memorandum. The trial which was commenced at Rock Hill, South Carolina, on June 14, 1976 consumed ninety-one trial days and with periodic recesses was concluded on February 11, 1977.

THE PARTIES AND THEIR ALIGNMENT

The plaintiffs are companies, or divisions of companies, whose businesses involve the processing of synthetic filament yarns in order to make them suitable for a wide variety of end uses. Each plaintiff is a corporation organized and existing under the laws of the state indicated below and conducts its principal texturing activities in the city indicated:

<u>Plaintiff</u>	<u>State of Incorporation</u>	<u>Principal Place of Business</u>
Blanchard Yarn Company, Inc.	Delaware	Whitakers, N. C.
Burlington Industries, Inc.	Delaware	Greensboro, N. C.

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<u>Plaintiff</u>	<u>State of Incorporation</u>	<u>Principal Place of Business</u>
Burkyarns, Inc.	North Carolina	Valdese, N. C.
Dixie Yarns, Inc.	Tennessee	Stanfield, N. C.
The Duplan Corporation	Delaware	Winston-Salem, N. C.
Frank Ix & Sons Virginia Corporation	New Jersey	Charlottesville, Va.
Hemmerich Industries, Inc.	Pennsylvania	Denver, Pa.
Jonathan Logan, Inc.	Delaware	Spartanburg, S. C.
Lawrence Texturing Corporation	(Division of Duplan)	Lillington, N. C.
Leon-Ferenbach, Inc.	Pennsylvania	Johnson City, Tenn.
Madison Throwing Company	(Division of Burlington)	Madison, N. C.
National Spinning Company, Inc.	New York	Washington, N. C.
Olympia Industries, Inc.	Delaware	Tuscaloosa, Ala.
Reliable Silk Dyeing Company, Inc.	New York	New York, N. Y.
Schwarzenbach-Huber Company	New Jersey	Luray, Va.
Spring-Tex, Inc.	North Carolina	Gibsonville, N. C.
Texelastic Corporation	North Carolina	High Point, N. C.
Texfi Industries, Inc.	Delaware	Lumberton and New Bern, N. C.
United Merchants & Manufacturers, Inc.	Delaware	Cartersville, Ga. and South Carolina

[659] The defendants opposing the Throwster plaintiffs are the following parties:

1. DMRC is a South Carolina corporation and is a wholly-owned subsidiary of DMI. It is the successor to Deering Millikin Research Trust, and its newly-acquired corporate name is Milliken Research Corporation. Under a license agreement with Chavanoz, DMRC is the exclusive use licensee in the United States and Canada of the right to use the Chavanoz patents in suit and the right to grant sublicenses.

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2. DMI is a Delaware corporation which maintains a place of business in New York, but its headquarters and much of its manufacturing operations are maintained in South Carolina. Its newly-acquired corporate name is Milliken & Company. DMI is a diversified textile manufacturer.

3. Chavanoz is a French "societe anonyme" with its principal place of business in Chavanoz, France. Chavanoz is the owner of the eight patents in suit.

4. ARCT-France is a French corporation with its principal place of business in Roanne, France. It is a manufacturer of various kinds of textile machinery, and under contractual arrangements with Chavanoz, ARCT-France is the exclusive licensee of the rights to make and sell the inventions made pursuant to the Chavanoz patents.

5. ARCT, Inc., is a North Carolina corporation with its principal place of business at Greensboro, North Carolina. It was formed in 1966 by ARCT-France for the purpose of distributing in the United States the textile machinery manufactured by ARCT-France.

In addition to the named defendants herein, other persons and concerns are alleged to have conspired with the defendants in one or more of the antitrust offenses charged, including: Leeson Corporation (formerly known as Universal Winding Company) ("Leeson"), the Permatwist Company ("Permatwist"), a partnership whose members are Warren A. Seem, Nicholas J. Stoddard, Fred Tecce and Harold P. Berger, and Whitin Machine Works ("Whitin").

a. Leeson is a Massachusetts corporation with its principal place of business in Warwick, Rhode Island. Leeson

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is a manufacturer and seller of false twist and other textile machinery and has licensed patents and technology relating to false twist and post-treating.

b. Permatwist is a Pennsylvania partnership which has been engaged in the promotion and licensing of apparatus and processes relating to false twist and post-treating.

c. Whitin was a Massachusetts corporation engaged in the manufacture and sale of textile machinery with its principal place of business in Whitinsville, Massachusetts. Prior to 1966, Whitin purchased ARCT false twist machines from ARCT-France and was the exclusive distributor of such machines in the United States.

The acts alleged to have been done by the corporate defendants and their alleged co-conspirators have been carried out by their officers, directors or employees, including but not limited to, the following:

a. Norman C. Armitage was an officer of DMRC and from time to time an officer of DMI. Dr. Armitage, who was a lawyer, was in charge of the business, legal, policy and administrative aspects of DMRC's false twist licensing program from its inception until his death in 1972.

b. Leo M. Soep was a French "conseil en brevets" employed until about 1966 by Comptoir des Textiles Artificiels, an affiliate of Chavanoz. Soep represented Chavanoz in connection with its false twist activities. After 1966 he became an independent conseil en brevets but continued to perform services for Chavanoz. From time to time Soep represented ARCT-France in connection [660] with its false twist activities. From 1966 until his death in 1971, Soep owned five per cent of the issued and outstanding shares of ARCT, Inc., and was a member of its board of directors.

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e. Henri Crouzet was at all relevant times the president of ARCT-France, and also, from the time of its formation in 1966, the president and member of the board of directors of ARCT, Inc.

d. Yves de Moncuit was at all relevant times an officer of Chavanoz and the Chavanoz employee who worked with Leo Soep on false twist matters. In 1969 or 1970 he became president of Chavanoz.

e. Robert F. Waters handled all ARCT false twist machinery sales for Whitin from 1959, when the first ARCT false twist machines were introduced in the United States, through 1965. Since the formation of ARCT, Inc. in 1966, Waters has been its executive vice president in actual control of its day-to-day operations, a member of its board of directors, a shareholder, and has continued to be the prime salesman for ARCT false twist machinery in the United States.

f. Walter E. Mueller was chief house patent counsel for DMRC (and its predecessor Deering Milliken Research Trust) from April, 1951 to March 1, 1968.

g. Robert Leeson, at all relevant times until 1967, was the president and chief executive officer of Leeson. Mr. Leeson was also chairman of the board of Leeson from 1956 or 1957 until at least February, 1972.

h. Albert P. Davis was at all relevant times the house patent counsel for Leeson.

THE PLEADINGS

At one time there were twenty-two Chavanoz patents in suit. Prior to trial twelve of the patents had been held not infringed on motions for summary judgment, and two

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of the patents had been held invalid under 32 U.S.C. § 102(d). Eight patents remain in suit. They are United States Patents Nos.

2,891,375	3,165,881
2,944,319	3,232,037
3,012,397	3,283,414
3,123,973	3,584,450

Plaintiffs allege in complaints, counterclaims and affirmative defenses against DMRC and Chavanoz that these remaining Chavanoz patents are invalid and not infringed. They seek declaratory judgments of invalidity and non-infringement. They deny any liability for royalties or for patent infringement. They also allege that DMRC, DMI, Chavanoz, ARCT-France and ARCT, Inc., have violated Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1 and 2, and have committed acts of patent misuse.

The antitrust claims fall into two categories: (a) the claim of a vertical conspiracy between the named defendants arising out of the license and sub-license agreements and the manner in which the business of the defendants was conducted, and (b) a claim of horizontal conspiracy between the named defendants and Leeson arising out of agreements entered into in 1964 which settled certain patent litigation then pending between Leeson and the defendants. The misuse claims relate to proceedings before the Patent Office, license provisions and the conduct of the present litigation by the defendants.

As previously indicated, the first of the actions here involved was brought by DMRC against Textured Fibres, Inc. (now Texfi Industries, Inc.) on August 8, 1968, as a simple contract action for the recovery of alleged unpaid royalties in the amount of \$45,691.45. Following the in-

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stitution of the suit by Duplan Corporation on November 25, 1969, seeking a declaratory judgment of invalidity and non-infringement as to the Chavanoz patents and alleging antitrust violations and patent misuse DMRC asserted claims or counterclaims against each of the plaintiffs for breach of the sub-license agreements arising out of plaintiffs' refusal to pay royalties and infringement of the Chavanoz patents arising out of the plaintiffs' continued use of the ARCT machines embodying the Chavanoz patents following repudiation or termination by the plaintiffs of the sub-license agreements. Chavanoz, which is not a party to the sub-license agreements, has joined DMRC in asserting [661] claims of patent infringement and, of course, is defending against plaintiffs' claims of antitrust violations and patent misuse.

ARCT-France, ARCT, Inc., and DMI disclaim any interest in or to the patents in issue and therefore make no claims for infringement damages or royalties against the plaintiffs. In their answers these three defendants have denied any liability to the plaintiffs by reason of the alleged antitrust violations.

THE ISSUES

All questions of damages, if any, to which any party may be found entitled having been reserved for trial at a later time, the issues arising on the pleadings to be resolved by the court at this time fall into four categories:

I. ANTITRUST

II. PATENT MISUSE

III. PATENT VALIDITY AND INFRINGEMENT

IV. NONPAYMENT OF ROYALTIES

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These issues will be treated in the succeeding sections of the memorandum.

I.

THE ANTITRUST ISSUES

A. The Vertical Conspiracy.

The facts on which the plaintiffs' allegations of antitrust conspiracy between the parties defendant in the chain of distribution are based are not in substantial dispute, the plaintiffs contending that the alleged restraints of a vertical nature are set forth in writing in the instruments the defendants signed. A review of the essential provisions of these agreements is therefore in order.

1. The Chavanoz-ARCT Agreements.

On October 30, 1954, Chavanoz entered into an agreement with ARCT-France (The "1954 Agreement") under the terms of which Chavanoz granted to ARCT-France "the exclusive right to manufacture and sell" the inventions described in certain Chavanoz false twist patents and patent applications as well as any later improvements. At that time Chavanoz owned French Patent No. 1,054,338 and two applications (Nos. 52,346 and 54,253) for certificates of addition, but it owned no United States patents relating to false twist.

The pertinent provisions of the 1954 agreement were as follows:

"1. [Chavanoz] grants to ARCT the exclusive right to manufacture and sell the devices described in the patent and additions mentioned above as well as any later improvement.

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"4. . . . [T]he rights of industrial property are reserved exclusively for [Chavanoz] including those attached to the new models. Any application for a patent that could concern such new models must be made by [Chavanoz] in its name and at its expense. ARCT will take the necessary steps to inform [Chavanoz] promptly of any improvements so as to allow it to insure adequate protection of which [Chavanoz] is the sole judge.

"6. ARCT shall not deliver the patented material to any firms other than licensees of the HELANCA process, except in the case of a prior and written authorization from [Chavanoz].³

"7. In exchange for the present exclusive grant, ARCT shall pay to [Chavanoz] royalties on all the material built and invoiced by ARCT or by its sublicensees [662] by virtue of the present document, delivered to any firms others than [Chavanoz]. The royalties shall be as follows . . . [ten per cent for first year decreasing annually to two per cent for the sixth and following years].

"9. The present license for construction and sale is granted and accepted for the duration of the main

³ Paragraph 6 of the 1954 agreement prohibiting ARCT from delivering its machines to firms other than the licensees of the "HELANCA" process was included by Chavanoz to carry out its contractual commitment to a Swiss company, Heberlein, reading as follows:

"Chavanoz undertakes for ARCT to deliver its machines only to firms which sign the licenses mentioned in Articles 1 and 2 with Heberlein, regardless of the fact of whether the Chavanoz patents constituting the subject of the present contract exist or do not exist in the countries concerned."

Under a 1958 modification to the 1954 agreement ARCT-France was relieved from the provisions of paragraph 6 as to certain countries, not including the United States, and under certain conditions.

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patent [French Patent No. 1,054,338], and it shall come into effect on the day the first mass-produced machine following the prototype is delivered."

Thereafter Chavanoz obtained United States patents corresponding to the French patent and applications which were issued as United States Patents Nos. 2,741,893 (the "bathtub" patent—so called because of the similarity in shape of the vessel designed to contain a hot liquid through which the yarn passed during processing to a conventional bathtub); 2,761,272; 2,780,047; 2,823,513; and 2,823,514. Since the 1954 agreement covered "improvements" as well as the existing French patent and applications and was worldwide in scope, these and subsequent United States patents obtained by Chavanoz relating to false twist came under the 1954 agreement. All five of these patents were held by Judge Hemphill on motions for summary judgment to be non-infringed by any ARCT machine purchased by the plaintiffs in this action.

Chavanoz and ARCT-France entered into a revised agreement dated July 18, 1962 (The "1962 Agreement") which consolidated "in a comprehensive instrument" the 1954 agreement and a "number of verbal agreements" stating "the parties are at one in considering that the various agreements should be brought into line and consolidated in a comprehensive instrument." The essential provisions of the 1962 agreement were as follows:

"1. [Chavanoz] grants to [ARCT] the exclusive right of construction and sale in the whole world of the devices described in the patents and patents of addition listed on the attached List A, as well as of any subsequent improvement in the field of the manufacture of crimped textile yarns, either natural, arti-

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ficial or synthetic, curled through the application of a false twist which is heat set, and in the yarns which may be obtained from said crimped or curled yarns, through an additional treatment or shaping. This field is called the 'field of the patents'.

"4. All patent rights attached to the improvements in the field of the patents remain the property of [Chavanoz]. Any patent application which may concern new models must be filed by [Chavanoz] in his name and at his expense, and [ARCT] must take all necessary measures so as to diligently communicate the improvements to [Chavanoz] to enable him to assure adequate protection, of which [Chavanoz] remains the only judge.

"7. [ARCT] has filed in its name the patents listed on List B and the patents have been assigned to [Chavanoz] with a retrocession of the complete freedom of exploitation outside of the field of the patents . . .

"8. [ARCT] shall deliver the devices under the present contract only to the holders of a process license which is granted by [Chavanoz], except in the case of a prior and written authorization by [Chavanoz]. In the countries where [Chavanoz] has no patents, [ARCT] may deliver without authorization.

"9. [ARCT] pays to [Chavanoz] in exchange for the exclusive right of construction and sale according to Article 1 and the technical assistance according to Article 2 ['the drawings and models of the prototypes made by the patentee'], a royalty which is two per cent of the value before taxes, leaving factory, electric motors not included.

"11. The present license of construction and sale is granted and accepted for the duration of the French

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Patent No. 1,054,338 [U.S. Patent No. 2,741,893—the "bathtub" patent].

"19. By reason of the technical assistance supplied by [Chavanoz] according to Articles 1 and 2, the present contract is not cancelled in the case of the complete invalidity of the patents of List A, but in [663] this case the protection according to Article 15 is de facto eliminated."

An additional French patent of addition (No. 67151) issued subsequent to the 1954 agreement was listed in List A attached to the 1962 agreement, but apparently no United States patent was issued corresponding to it. Of the six French patents assigned by ARCT to Chavanoz as shown on List B, United States patents were obtained on two of them (French Patent Nos. 1,126,065 and 1,216,847) and these two United States Patent Nos. 2,788,634 and 3,177,361, were held by Judge Hemphill not to have been infringed by the plaintiffs herein.

The royalties payable by ARCT to Chavanoz under the 1954 and 1962 agreements were in fact paid, and there was no difference in the royalty rate for machines sold in the United States where customers also paid a production royalty for use of the machines and the royalty rate paid on machines sold in countries where no use royalty was payable.

2. The Chavanoz-DMRC Agreements.

On December 31, 1957, DMRC and Chavanoz signed an agreement giving DMRC the exclusive rights in the United States and Canada under the Chavanoz false twist patents with the right to grant sub-licenses. The pertinent portions of this agreement were as follows:

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"1. Chavanoz hereby grants to DMRC throughout the United States, its territories and dependencies and Canada upon the conditions hereinafter set forth and subject to certain rights of cancellation as defined below, an exclusive license to use the FT process and FT machines for the purpose of making, using and selling [false twist] yarns in accordance with technical information and the inventions of the FT patents set forth in Appendix 'A' appended hereto, with the right to grant sublicenses in the United States and Canada. The right to manufacture and sell FT machines in accordance with said FT patents is specifically excepted.

"3. The manufacture and delivery of FT machines by ARCT or its sublicensees for use in the United States and Canada shall, as between Chavanoz and DMRC, be the responsibility of Chavanoz and Chavanoz shall direct ARCT or ARCT's sublicensees for the manufacture and sale of FT machines to sell or deliver FT machines in the United States and Canada only to parties sublicensed by DMRC to use the machines, such sublicenses and parties being respectively referred to hereinafter as 'use licenses' and 'use licensees' . . .

"DMRC under its rights to sublicense hereunder shall issue use licenses to reputable customers of ARCT or of ARCT's sublicensees when called upon by ARCT or ARCT's sublicensees so to do, but shall have the right to refuse the grant of a use license to any parties for sufficient cause. The grant of a use license shall not be arbitrarily or unreasonably withheld.

"9. DMRC shall charge its use licensees royalties in the amount of five per cent of the manufacturer's list price of the raw yarn which is converted to

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mousse [false twist] yarns by such use licensees according to the FT process or on FT machines and is sold or used; provided, however, that this rate of royalty may be reduced by DMRC and at its discretion to a figure of not less than two and one-half per cent if there is substantial unlicensed competition by producers using the FT process or FT machines embodying the inventions of this agreement to the extent of at least 10,000 pounds of [false twist] yarn per month and further provided, that DMRC shall exact from each use licensee a minimum annual royalty of \$1,000.00 payable in advance.

"10. DMRC shall remit to Chavanoz fifty per cent of all revenues which DMRC itself receives from the use licensees . . .

"15. This agreement and the license granted hereunder, unless sooner terminated or cancelled as hereinafter provided, shall continue for a period until expiration of the last patent to issue to Chavanoz [664] in the United States and Canada respectively."

In addition to the quoted provisions the agreement also required Chavanoz "to furnish to DMRC all the technical information and know-how Chavanoz possesses in the field of the FT process", and there was a grant-back provision requiring DMRC to assign to Chavanoz improvements in the FT process made by DMRC and to include in its sublicense agreements a provision requiring its sublicensees to grant Chavanoz a license in the sublicensees' own country under any such improvements and to assign all foreign rights to Chavanoz without payment of royalty.

DMRC and Chavanoz executed six supplemental agreements between 1957 and 1962 under the terms of which Mexico was added to the territory in which DMRC was

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given use rights, the grant-back provision in the 1957 agreement was first modified and then deleted, the royalty rate was fixed at two and one-half per cent and DMRC was authorized to grant non-commercial use licenses with no minimum royalty. A further supplemental agreement provided that the sub-licenses granted by DMRC would not *ipso facto* terminate "if for any reason the exclusive license granted DMRC by Chavanoz is terminated."

On December 28, 1962, DMRC and Chavanoz entered into a new basic agreement which revised the 1957 agreement, but in all material respects it remained the same as the 1957 agreement as modified by the intervening supplemental agreements.

With a few subsequent modifications, the 1962 DMRC-Chavanoz agreement remained the basic agreement between them until after the commencement of the present litigation. One of the modifications incorporated the terms of an agreement between DMRC, Chavanoz and Whitin in June, 1963 increasing the royalty rate to three and one-half per cent with all but .6% being escrowed for return to the licensees in the event of the unsuccessful defense of litigation then pending between the Leeson Corporation, DMRC, Chavanoz and Whitin.

3. *The ARCT-France-Whitin Agreement.*

On February 20, 1959, ARCT-France and Whitin Machine Works entered into an agreement under which Whitin was granted the exclusive right to sell ARCT false twist machines in the United States, Canada and Mexico. (An option granted Whitin to manufacture the machines was never exercised.) Following several recitals including reference to the 1954 agreement between Chavanoz and ARCT-France

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and the fact that Chavanoz has granted to DMRC "the exclusive right to grant sub-licenses to practice and use the processes covered by said [Chavanoz] patents in the USA, Canada and Mexico" the agreement contained the provision that "Whitin agrees to sell FT machines only to persons or firms approved by [Chavanoz] and/or DMRC."

While the agreement speaks in terms of Whitin's acting "as a selling agent for such machines", in practice Whitin purchased the machines outright from ARCT-France and took title to them at the French port of embarkation. At that time ARCT-France parted with all dominion and control over the machines and the risk of loss was transferred to Whitin. Whitin had the absolute right to set its own price for the resale of these machines to Throwsters in the United States, Canada and Mexico.

4. *The ARCT-France-ARCT, Inc., Agreement.*

In February, 1966, ARCT, Inc., was organized as a North Carolina corporation to undertake to sell the ARCT machines in the United States. Stock in this new corporation was owned sixty per cent by ARCT-France, thirty-five per cent by Robert Waters, who had been Whitin's sales manager for the ARCT machines, and five per cent by Leo Soep, a French "conseil en brevets"⁴, who, in addition to representing [665] Chavanoz in patent matters, also negotiated agreements in patent and other matters on behalf of ARCT-France from time to time including the Whitin agreement.

⁴ As stated by Judge Widener in *Duplan Corporation v. Deering Milliken, Inc.*, 540 F.2d 1215, 1218, Footnote 3 (4th Cir. 1976), "The American legal system apparently has no direct equivalent to the French conseil en brevets. For our purposes, however, it is sufficient to note that Soep was not a lawyer, but, at all times relevant here, represented Chavanoz in patent matters."

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With the formation of ARCT, Inc., Robert Waters left Whitin, where he had been responsible for sale of all ARCT false twist machines in this country, to become executive vice president and director of ARCT, Inc., in actual control of its day-to-day operations.

On February 7, 1966, ARCT France and ARCT, Inc., entered into an agreement for the purchase of ARCT machines from ARCT-France by ARCT, Inc. This agreement provided that "property in the machine and risk of loss will shift to ARCT, Inc., upon delivery to the ocean carrier at the French port of embarkation" and that ARCT, Inc., had the absolute right to set its own resale price to its Throwster customers. Although Whitin retained the right to distribute the machines after the formation of ARCT, Inc., it in fact went out of that business and did not sell any false twist machines thereafter, and since 1966 ARCT, Inc., has acted as the distributor of ARCT false twist machines in the United States.

The written agreement between ARCT-France and ARCT, Inc., contained no express covenant, such as that found in the ARCT-France-Whitin agreement, restricting the resale of ARCT machines by ARCT, Inc., to DMRC licensees, but in practice ARCT, Inc., did in fact so restrict delivery of the machines until well after the institution of this litigation.

The sales contracts of ARCT, Inc., and its predecessor, Whitin, contained no reference to the DMRC use license or the fact that DMRC had any use rights in the Chavanoz patents, but the Throwster purchasers were routinely informed by Waters while he was employed by Whitin and later by ARCT, Inc., that it would be necessary to obtain a use license from DMRC before the machinery could be placed in operation. It was also publicly announced in trade

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publications as early as April, 1959, that Chavanoz had granted DMRC the right to license users of the ARCT machines in the United States which Whitin had been licensed to manufacture and sell, and it was common knowledge in the trade that a DMRC use license was required to operate these machines.

5. *The Standard DMRC License Agreement.*

Prior to the sale of the first ARCT machine in the United States DMRC prepared with Chavanoz's approval a printed form standard license agreement (the "DMRC Use License") to be signed by all purchasers of ARCT machines. The subject matter of the DMRC use license, which was signed by each of the plaintiffs in substantially identical form, is spelled out in the "Whereas" clauses as follows:

"WHEREAS, DMRC has an exclusive license throughout the United States, Canada and Mexico with the right to a grant sublicenses under certain inventions and technical information relating to processes and devices for the manufacture of crimped synthetic yarns based upon the application of a false twist (such processes and devices being hereinafter referred to respectively as 'FT processes' and 'FT machines'), which inventions are described in United States patents and/or applications for Letters Patent in the United States, owned by MOULINAGE ET RETORDERIE DE CHAVANOZ (hereinafter referred to as CHAVANOZ) and listed in Appendix 'A' appended hereto, together with certain improvements thereon as such may hereafter be made or acquired by CHAVANOZ and any patent applications and/or patents in the United States relating thereto, to use said processes and devices for the purpose of making said crimped yarns for use and

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sale, such right of DMRC under the inventions, applications and patents aforesaid being hereinafter referred to as 'FT PATENT RIGHTS,' and

[666] "WHEREAS, LICENSEE desires a use license to use processes and devices embodying the inventions of said FT PATENT RIGHTS, . . ."

The pertinent contractual provisions of the agreement are as follows:

"1. DMRC hereby grants to LICENSEE upon the conditions hereinafter set forth and subject to certain rights of cancellation as defined below, a nonexclusive and nontransferable use license for a period until expiration of the last patent to issue in the United States, upon which said FT PATENT RIGHTS are based, to use the FT processes and FT machines for the purpose of making for use and sale crimped yarns in accordance with technical information and the inventions of said FT PATENT RIGHTS. The use license hereby granted is restricted as to the use of the FT process and FT machines to the plants of the LICENSEE situated in the United States, but subject to intervening rights, if any, of third parties, the crimped yarn manufactured by such use may, as between DMRC and LICENSEE, be sold freely in all of the countries of the world.

"2. DMRC has already furnished to LICENSEE certain technical information relative to the present inventions, which LICENSEE acknowledges, and as promptly as practicable after the date of this agreement DMRC shall furnish to LICENSEE such additional technical information and 'know-how' as is necessary in DMRC's opinion to enable LICENSEE to practice the inventions licensed hereby and shall

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from time to time while this agreement is in effect furnish further additional information as it similarly deems necessary to supplement information heretofore furnished hereunder, provided, however, there shall be no obligation on the part of DMRC or its licensor to perform any additional or future research or development in the field of the inventions covered by this agreement. DMRC shall disclose to LICENSEE said additional information and 'know-how' after mill test has in DMRC's judgment confirmed that an improvement has been made and within sixty (60) days after the improvement has in DMRC's judgment been successfully reduced to practice in commercial production. If DMRC hereafter makes or acquires any improvements of the inventions of FT PATENT RIGHTS upon which it obtains patents, it shall then grant to LICENSEE licenses to use such improvements at no increase in royalty by incorporation of such patents into FT PATENT RIGHTS under the present agreement. LICENSEE shall be entitled to send its engineers or other personnel to DMRC or its designee for the purpose of obtaining instructions as to the best methods of practicing these inventions, and may request DMRC to send to LICENSEE upon terms to be mutually agreed upon technical personnel for the purpose of instructing LICENSEE at LICENSEE's premises in the said best methods of practicing the inventions.

"3. LICENSEE shall disclose to DMRC within thirty (30) days of the first use or embodiment thereof in commercial practice, any improvements of the FT process or FT machines, whether or not patentable, conceived and made by LICENSEE or its employees subsequent to the date of this agreement and shall grant to DMRC or its designee throughout the

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United States, its territories and dependencies, a non-exclusive license thereunder and any patent application or patent thereon with the exclusive right in DMRC or its designee to sublicense its licensees and sublicensees thereunder for the life of the last patent to issue in the United States of the patents upon which said FT PATENT RIGHTS are based, said improvements being available for use by LICENSEE, and LICENSEE shall assign to DMRC or its designee all foreign rights thereto, all without payment of royalties. [This grantback clause deleted after 1961.]

"4. Except as hereinafter provided, LICENSEE shall pay DMRC during the life of this agreement royalties in the amount of two and one-half per cent (2½%) [later 3½%] of the manufacturer's list [667] price of the raw yarn (but including any customs tariff on yarn imported from abroad) which is converted to crimped yarn by LICENSEE according to the FT process or on FT machines and is sold . . . The present use license is related only to the use of FT machines manufactured under license of CHAVANOZ by Ateliers Roannais de Constructions Textiles, of Roanne, France, referred to hereinafter as ('ARCT,' or its sublicensees, and LICENSEE is required to pay royalties under the provisions of the present paragraph only upon the production of such machines, provided that LICENSEE shall have the right to include under this use license the use of any other false twist or FT process or any other false twist or FT machine upon notice to DMRC, whereupon royalties upon the production thereof shall thereafter be payable in accordance with the above provisions.

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"5. LICENSEE shall pay to DMRC a minimum annual royalty of One Thousand Dollars (\$1,000.00) in United States currency, the first said payment to be made upon the signing of this agreement by LICENSEE and succeeding payments upon each anniversary of the execution of the agreement. These minimum royalties in their entirety shall be respectively credited against royalties accruing under paragraph 4 hereof in the next succeeding twelve (12) months but shall not be credited against any royalties payable thereafter.

"9. DMRC warrants that CHAVANOZ has undertaken that, in the event that LICENSEE is threatened with suit or is used for patent infringement based upon the use of techniques or procedures specifically recommended by DMRC to LICENSEE hereunder, CHAVANOZ shall upon request from LICENSEE (transmitted through DMRC) defend such suit at the expense of CHAVANOZ insofar as such alleged patent infringing activities may be involved; provided that DMRC is notified promptly in writing of all such claims of or suits for infringement, and further provided that any damages awarded or expenses of any kind incurred in such defense beyond court costs and attorneys' fees shall be borne by LICENSEE.

"10. DMRC further warrants that CHAVANOZ has agreed that, if for any reason the exclusive license granted DMRC by CHAVANOZ and referred to above is terminated, the present use license shall not be terminated ipso facto but LICENSEE shall have the right and option to continue under the terms of the present use license, except that CHAVANOZ shall succeed to the rights and obligations of DMRC hereunder.

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"11. LICENSEE shall have the right to terminate this license and agreement five (5) years after the date of commencement of the first fiscal year hereunder or on any anniversary thereafter by giving DMRC sixty (60) days' notice in writing of such termination . . .

"13. In the event of termination or cancellation of this agreement by operation of paragraphs 10, 11 or 12 hereof, LICENSEE agrees to cease using the FT process and FT machines for the manufacture of crimped yarn according to inventions which are the subject of the present agreement, except that LICENSEE shall have the right to complete any and all contracts for the manufacture of said crimped yarn which it may then have upon its books or for which it has become obligated . . . In the event of termination or cancellation of this agreement, LICENSEE shall not use or disclose the technical information furnished hereunder except as such information is published or otherwise made available to the public through other sources, and LICENSEE shall deliver to DMRC within ninety (90) days after the date of such termination or cancellation all written or printed material in LICENSEE's possession relating to the FT process or FT machines of this agreement, whether or not such written or printed material was furnished to LICENSEE by DMRC, and including all copies of instructions, drawings, photographs, and the like.

[668] "14. LICENSEE acknowledges the validity of any patents issued or which may issue on applications as aforesaid, and agrees that it will not contest the same or be a party directly or indirectly to any proceeding disputing such validity or tending to impair the value of FT PATENT RIGHTS or by which

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the enjoyment of full revenue therefrom by DMRC may be reduced.

From the outset of the DMRC licensing program in the United States DMRC and Whitin actively cooperated in compelling compliance with the use license requirement, and this cooperation was continued by ARCT, Inc., when it took over the sales of the ARCT machines in this country. DMRC took such measures as threatening to embargo the shipment of ARCT machines to the United States in an effort to prevent the delivery of machines to non-licensed Throwsters.

The procedures which had been established during the Whitin period continued essentially unchanged by ARCT, Inc., until after the commencement of this litigation. Although there were some isolated instances in which machines were delivered prior to the execution by the purchaser of the use license, Waters never told a customer or prospective customer that it was not necessary to sign the DMRC license or that he would deliver a machine if the agreement was not signed.

ARCT-France through its chief executive officer, Henri Crouzet, also continued to cooperate with Chavanoz and DMRC in the use licensing program. As late as February, 1970, Crouzet wired Armitage of DMRC:

" . . . It has never been in our intention nor Bob Waters' to deliver machines to your customers without signature of a license . . . The agreement given to Bob Waters is to sell at the present conditions up to end of February to the new customers who would have taken towards ARCT the binding of signing a license with you . . . The license will always been [sic] regularized before delivery of the machines . . ." (PX 539).

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And in March of 1970 Crouzet wrote to deMoncuit of Chavanoz:

"Pursuant to Article 8 of the agreement of 7/18/62 we refrained from and prohibited our affiliate, ARCT, Inc., from selling false twist machines to American customers who have not taken a license with DMRC." (PX 212)

The result of this concert of action between the defendants was that at the time of the institution of this litigation there was no ARCT FT machine in commercial operation in the United States by an unlicensed user.

Because the requirement that the machines be sold only to use licensees was a disadvantage to Whitin and ARCT, Inc. in making sales, the cooperation of Robert Waters in the DMRC licensing program while he was sales manager for Whitin and later when he became executive vice president of ARCT, Inc. was tinged with some reluctance. As shown in more detail in the proposed findings of fact of ARCT, Inc., Nos. 51-52 adopted below, this eventually led to a deterioration of the relationship between Waters, whose sole interest was in selling machines, and Norman Armitage of DMRC, whose sole interest was in licensing the machines and collecting royalties. Finally in late August, 1970, long after this litigation had been pending, ARCT, Inc., added a disclaimer paragraph to its sales contracts reading as follows:

"There is no warranty, express or implied, that the sale, delivery or use of the FT machine provided for in this contract does not infringe patents owned by third parties. A use license under certain patents covering this machine may be obtained from Deering Milliken Research Corporation." (DX 821).

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Thereafter ARCT, Inc., sold the machines without regard to whether the customer had signed a use license, and no new purchaser has since signed a DMRC use license.

In addition to the foregoing findings of fact with respect to the alleged vertical conspiracy the court expressly adopts as its [669] own the following proposed findings of fact submitted by the parties:

1. Plaintiffs' proposed findings of fact on the antitrust issues Nos. 14.40, 14.43, 14.46, 14.51, 14.56, 14.59, 14.60, 14.61, 14.64, 14.66, 14.80, 14.81 and 14.82.

2. Chavanoz, DMRC and DMI proposed findings of fact on the antitrust issues under Section I, Nos. 1-9 inclusive, 11, 12, 20-23 inclusive, 29, 33, 72 and 73.

3. ARCT-France's proposed findings of fact Nos. 7-12 inclusive, 16, 17, 24, 25, 27 and 30-33 inclusive.

4. ARCT, Inc.'s proposed findings of fact Nos. 50, 51 (with the exception of the last paragraph) and 52.

While the foregoing facts relating to the alleged vertical conspiracy are not in serious dispute, the legal conclusions drawn by the opposing parties from these facts are in diametric contradiction. The plaintiffs have confidently asserted that they have established by a preponderance of the evidence per se and other violations of Section 1 of the Sherman Act while the defendants with equal confidence have contended to the contrary, asserting that the facts establish only that the defendants have exercised lawful rights granted them under the patent laws.⁵

⁵ Section 1 of the Sherman Act (15 U.S.C. § 1) provides in pertinent part:

"Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal . . ."

(footnote continued on following page)

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Plaintiffs' position may be briefly summarized as follows:

(1) Chavanoz's license to ARCT-France and its sale of the machines exhausted the patent monopoly and gave all subsequent purchasers of the machines an implied license to use them without further payment of royalties;

(2) The Chavanoz-ARCT-France agreements required ARCT-France to assign to Chavanoz ("grant-back") patent rights in all improvements;

(3) Chavanoz and DMRC conspired to fix the price of the ARCT machines through the use of royalties exacted from the Throwster purchasers; and

(4) Chavanoz and DMRC conspired to tie the purchase of the machines to the purchase of a compulsory package license covering unpatented "technical information" and technology and a large number of patents most of which were not applicable to the machines.

These charges will now be considered seriatim.

The Exhaustion-Implied License Theory

Plaintiffs do not deny that the rights inuring to a patentee under Section 154 of the patent laws, 35 U.S.C. § 154, to exclude others from making, using or selling a patented invention may lawfully be assigned or licensed separately under Section 261, 35 U.S.C. § 261, and that the patentee is entitled to a monetary reward for any one or all three of

(footnote continued from preceding page)

Section 2 of the Sherman Act (15 U.S.C. § 2) makes liable:

"Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations . . ."

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such rights. Plaintiffs earnestly contend, however, that Chavanoz failed to achieve its apparent purpose in this case with the result that the sale of the ARCT machines, first to Whitin and later to ARCT, Inc., exhausted the patent monopoly and that upon resale of the machines the purchasers acquired an implied right to use them without payment of a use royalty to Chavanoz or its sublicensee, DMRC. From this premise it is argued that the restriction on the resale of the machines to DMRC licensees was a restraint on trade which constituted a per se violation of Section 1 of the Sherman Act under *United States v. Arnold, Schwinn and Company*, 388 U.S. 365, 87 S.Ct. 1856, 18 L.Ed.2d 1249 (1967).

In support of their argument that the exhaustion doctrine is applicable here plaintiffs [670] point to the absence of any express reservation of use rights in the 1954 agreement. This agreement gave ARCT-France, so the argument goes, the unlimited right to sell the machines free and clear of any use rights later claimed by Chavanoz to have been retained, and notwithstanding all purchasers of the machines in the United States fully understood that use royalties were payable, and were in fact paid prior to the institution of this litigation, the purchasers were under no legal obligation to do so. Settled principles of contract and patent law impel a contrary conclusion.

The general rules of construction for contracts are applicable to the construction of patent licenses. *De Stubner v. United Carbon Company*, 67 F.Supp. 884, 891 (S.D.W.Va. 1946), *aff'd*, 163 F.2d 735 (4th Cir. 1947); *Baldwin Rubber Company v. Paine & Williams Company*, 107 F.2d 350 (6th Cir. 1939). The construction placed on a license contract by the parties is entitled to great weight. *Limbershaft Sales Corporation v. A. G. Spalding & Brothers*, 111 F.2d 675 (2nd

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Cir. 1940). And, of course, a license contract must be construed as a whole and the intention of the parties must be determined from the entire agreement. *Victory Bottle Capping Machine Company v. O. & J. Machinery Company*, 280 F. 753, 759 (1st Cir. 1922).

None of the agreements between Chavanoz and ARCT-France expressly reserved to Chavanoz the use rights in machines to be built embodying the Chavanoz inventions, and sales were only limited by the 1954 agreement to licensees of the HELANCA process. Nothing was said of the right of those licensees to use the machines following purchase.⁶ The 1957 Chavanoz-DMRC agreement, however, obligated Chavanoz "to direct ARCT . . . to sell or deliver FT machines in the United States . . . only to parties sublicensed by DMRC to use the machines . . ."

The record is not clear as to how Chavanoz undertook to discharge this obligation, but without question ARCT-France and its affiliates in the United States, first Whitin and later ARCT, Inc., faithfully adhered to the directive which Chavanoz doubtless gave, and no sales or deliveries were made to purchasers in the United States who did not at the time of the sale or shortly thereafter sign a DMRC use license. It must be assumed, therefore, that ARCT-France accepted this obligation as an amendment to its 1954 agreement with Chavanoz. The 1962 agreement which consolidated "in a comprehensive instrument" the 1954 agreement and a "number of verbal agreements" contained an express

⁶ In 1954 Chavanoz owned no United States patents, and we need not ponder the question of whether the sale of a machine by ARCT-France in this country prior to the 1957 Chavanoz-DMRC agreement to a purchaser not licensed under the HELANCA process would have carried with it an implied right to use the machine, for in fact no such sales were made.

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prohibition against the delivery of the machines by ARCT-France to non-licensed users. In the meantime a similar prohibition had been incorporated in the 1959 agreement between ARCT-France and Whitin.

Even if there had been no express limitation on ARCT-France's right to sell and deliver to non-licensed users, such term may be implied from the conduct of the parties.

"Terms may be implied in a contract, not because they are reasonable, but because they are necessarily involved in the contractual relationship so that the parties must have intended but failed to specifically include them because of their obviousness. Where, from the nature of a contract and the circumstances under which made, it is apparent the parties must have proceeded on the basis that certain conditions existed, without which its performance would be unnecessary, the existence of such conditions will be regarded as implied terms of the obligation. *Sacramento Navigation Company v. Salz*, 273 U.S. 326, 329 [47 S.Ct 368, 71 L.Ed 663]; *Wheeling & L. E. R. Company v. Carpenter*, 218 F. 273 (CCA 6)." *Baldwin Rubber Company v. Paine & Williams Company*, 107 F.2d 350, 353 (6th Cir. 1939).

[671] Plaintiffs cite the intermediate sales by ARCT-France to Whitin and ARCT, Inc., as further evidence in support of their exhaustion argument, but in the court's view these sales did not serve to free the machines from the use right restriction any more than if the plaintiffs had purchased directly from ARCT-France. In either case, they would have purchased from a party who had no use rights in the machines, a fact well known to all concerned. Thus the sales remained conditional under the patent laws. Since ARCT-France's right to manufacture and sell the machines was a contractually-limited one, the use rights were effec-

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tively reserved and Chavanoz and DMRC had the right to license the use of the machines separately from their manufacture and sale, *Brulotte v. Thys Company*, 379 U.S. 29, 85 S.Ct. 176, 13 L.Ed.2d 99 (1964); *General Talking Pictures Corporation v. Western Electric Company*, 304 U.S. 175, 58 S.Ct. 849, 82 L.Ed. 1273 (1938); *In Re Yarn Processing Patent Validity Litigation*, 541 F.2d 1127 (5th Cir 1976); *Extractol Process, Ltd. v. Hiram Walker & Sons, Inc.*, 153 F.2d 264 (7th Cir. 1946).

In the *Schwinn* case, so heavily relied on by plaintiffs, the Supreme Court extended the per se doctrine to cover restrictions imposed by a vendor on the resale by a distributor of unpatented merchandise as to which the vendor had surrendered title, dominion and control. The plaintiffs have cited no case, however, and the court has found none, extending *Schwinn* to a restriction imposed by a patentee in the lawful exercise of his patent monopoly rights.⁷ Having concluded that the sales by ARCT-France did not exhaust the patent monopoly, the court declines to apply the *Schwinn* doctrine to the facts of this case.

The Grant-Back Clause

Covenants in a license requiring the licensee to assign or license any improvements he may make to the patentee, commonly referred to as "grant-backs", are not as such

⁷ Referring to the right to reserve control over a product as to which a manufacturer has parted dominion or transferred risk of loss to another, the court in *Schwinn* said in Footnote 6: "We have no occasion here to consider whether a patentee has any greater rights in this respect." 388 U.S. at p. 379, 87 S.Ct. at p. 1865. The parties in this case, as have the courts and scholars in cases and commentaries following *Schwinn*, have debated the meaning of this rather ambiguous statement. See an interesting discussion of this subject in *Vertical Restraints on Patented Products and Schwinn: The Case For a Rule of Reason Approach*, 43 George Washington Law Review 239, 251-252 (November, 1974).

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inherently illegal. *Transparent-Wrap Machine Corporation v. Stokes-Smith Company*, 329 U.S. 637, 67 S.Ct. 610, 91 L.Ed. 563 (1947). Plaintiffs contend, however, that the contractual obligation of ARCT-France to assign to Chavanoz all rights in improvements in the "patent field" as defined in paragraph 1 of the 1962 agreement "far exceeds the scope and form of grant-back obligation exempted from the per se rule in [*Transparent-Wrap*]", and constituted a per se violation of Section 1 of the Sherman Act as well as an unreasonable restraint on trade under that statute.

Because the scope of the improvements required to be granted back by ARCT-France extended substantially beyond the scope of Chavanoz's original patents, the question here is a close one, but the court has concluded that the grant-back clause did not in this instance offend the anti-trust laws. Considerations leading to this determination include the following:

1. The grant-back had no adverse effect on competition in the manufacture of false twist machinery. Neither Chavanoz nor DMRC manufactured machinery, and ARCT-France's principal competitor in the United States, Leeson, was not affected by this grant-back arrangement between Chavanoz and ARCT-France.

2. ARCT-France was the only manufacturing licensee involved in the grant-back arrangement, and it was free to incorporate its own inventions in its machines without payment of further royalties to Chavanoz. Since all ARCT machines sold in this country included at least two inventions patented initially to Chavanoz in its own right [672] (DX 628), the plaintiff use licensees were under a continuing obligation to pay the level royalty rate established by Chavanoz and DMRC. When new improvements were developed and incorporated in the machines they were made

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available to plaintiffs without any increase in this fixed royalty rate. Thus the plaintiffs were not harmed by the grant-back arrangement.

3. Invention by ARCT-France was not discouraged by the grant-back clause. Of the twenty-two patents originally in suit here twelve were developed by ARCT-France and assigned back to Chavanoz. Its research and development efforts obviously were not stifled by the arrangement.

In the early DMRC standard use license form there was incorporated a grant-back clause applicable to DMRC's use licensees, the plaintiffs in this case, but this provision was deleted in 1961 following an amendment to the Chavanoz-DMRC agreement. The questions raised by the several grant-back clauses which continued to appear in the Chavanoz-ARCT-France agreements will be re-examined under the patent misuse section of this memorandum, but at this point the court is of opinion that the requirement that ARCT-France assign back to Chavanoz all improvements it might make in the "patent field" did not rise to the level of an antitrust violation.

The Price-Fixing Charge

In support of their position on the price-fixing charge plaintiffs argue that the amount of royalty established by the agreement between Chavanoz and DMRC which the licensees were to pay, and which DMRC consistently maintained was non-negotiable, constituted a part of the sales price of the machines. The fixing of this portion of the price paid by the Throwsters, the plaintiffs contend, constituted a per se violation of Section 1 of the Sherman Act.

Here again we find the plaintiffs relying on the assumption that the sale by ARCT-France of the machines ex-

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hausted the patent monopoly and carried with it an implied license to use the machines without payment of royalties. Since the court has been unable to accept this argument, the charge of price-fixing must be examined in the light of the unquestioned right of a patentee "to exact royalties as high as he can negotiate within the leverage of that monopoly." *Brulotte v. Thys Company*, 379 U.S. 29, 33, 85 S.Ct. 176, 179, 13 L.Ed.2d 99 (1964).

Plaintiffs' reliance on such cases as *Ethyl Gasoline Corporation v. United States*, 309 U.S. 436, 60 S.Ct. 618, 84 L.Ed. 852 (1940), and *United States v. Univis Lens Company*, 316 U.S. 241, 62 S.Ct. 1088, 86 L.Ed 1408 (1942), is misplaced. In each of those cases the patentee had licensed a manufacturer to make and sell the patented product but had reserved the use rights to itself. The patentee had then issued use licenses to wholesalers and retailers, and in each license had set the price at which the party could sell to the next party in the chain. Therefore, on the purported basis of a retained use license, the patentees had set the price paid by the first wholesaler to the manufacturer, by the first retailer to the wholesaler and by the public to the retailer. The holding in these cases is simply that the Sherman Act prohibits the use of a patent monopoly to fix the resale price once the product has passed into the hands of a purchaser from a manufacturing licensee. They in no way impose a restriction on the amount a patentee may set as the purchase price for his invention or the amount he may exact as a royalty for its use. *Eastern Venetian Blind Company v. Acme Steel Company*, 188 F.2d 247, 253 (4th Cir. 1951).

In Re Yarn Processing Patent Validity Litigation, 541 F.2d 1127 (5th Cir. 1976), another case relied on by plaintiffs, is also distinguishable. In that case the patentee, Leesona, licensed other manufacturers to make and sell

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machines incorporating its patents but reserved the right to charge the purchasers a production royalty one-third of which was shared with its competitor manufacturers. The Fifth Circuit held that the sales price of the machinery consisted of two elements, the initial price and the royalty payments, and that since the royalty rate was not negotiable by the manufacturers, [673] this portion of the purchase price of the machinery was fixed. A finding by the district court of violations of Sections 1 and 2 of the Sherman Act was affirmed. The court said:

"A patentee may usually exact whatever royalty it wishes. But Leeson and Permatwist elected to take a one-third reduction in their royalty income. There is nothing in the patent laws that allows them to decide unilaterally that the machine manufacturers would get the entire benefit of their own royalty reduction. By allocating this benefit, Leeson guaranteed income to the manufacturers and effectively fixed the price of the machinery. The machinery manufacturers who participated in the scheme were protected against free competition and free bargaining in effecting their sales to throwsters." 541 F.2d at p. 1136.

Although this court is inclined to agree with the plaintiffs that the royalties paid by them to DMRC constituted in effect a part of the purchase price for the machines, the royalties were not shared with a manufacturer but were simply retained by Chavanoz and its licensing agent, DMRC, as the patentee's reward for its patented inventions. The court concludes that the plaintiffs' price-fixing charge has not been established.

*Memorandum Opinion—444 F. Supp. 648 (D.S.C. 1977)**The Tying Arrangement*

Plaintiffs strongly urge that the defendants conspired to impose on them a tying arrangement which constituted a per se violation of Section 1 of the Sherman Act. More specifically, they contend that as a result of the requirement that they take the DMRC use license, patents and unpatented technical information were tied to the machines and non-applicable patents and unpatented technical information were tied to other patents. Although the facts on which plaintiffs' contentions are based may be seen later to justify a finding of patent misuse, in the court's view they do not support the conclusion that the tying arrangement violated the antitrust laws.

A tying arrangement is an agreement by a party to sell one product (the tying product) but only on condition that the buyer also purchase a different (or tied) product. Illegality under the tying cases is established when it is shown that the antitrust defendant has sufficient market power with respect to the tying product to restrain free competition in the market for the tied product and a not insubstantial amount of commerce in the tied product is affected by the arrangement. *Kentucky Fried Chicken v. Diversified Packaging*, 549 F.2d 368 (5th Cir. 1977); *Advance Business System & Supply Company v. SCM Corporation*, 415 F.2d 55 (4th Cir. 1969); *Donlan v. Carvel*, 209 F.Supp. 829 (D.Md.1962).

When the tying product is patented sufficient market power to enforce a tie-in is presumed. *United States v. Loew's Inc.*, 371 U.S. 38, 83 S.Ct. 97, 9 L.Ed.2d 11 (1962). By the same token when the patent itself is employed as the tying "product" the power of the patentee to require a licensee to purchase a different product is unquestioned.

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Although the ARCT machines as such were not patented, a rapid growth in their sales was experienced almost from the beginning, and for present purposes the court has assumed with respect to the patents and the machines the defendants possessed sufficient economic power in the tying products to enforce the alleged tie-ins at all times. Attention need therefore be focused only on the question of whether a substantial amount of commerce in the tied property was affected by the tying arrangement. This in turn involves identification of the tied product.

Plaintiffs assert that the patents themselves and certain unpatented "technical information" were tied products—that they were tied to the machines—and that plaintiffs were required to take a license under all of the Chavanoz patents (regardless of their applicability to the machines) and the unpatented technical information in order to get the machines.⁸

[674] Plaintiffs further complain that when the patents actually applied to the machines are considered as the tying

⁸ The exact meaning of "technical information" as used here remain something of a mystery. In a letter to a Thowster's attorney dated April 22, 1961, Armitage of DMRC wrote:

"The machine itself contains structural and functional elements, some of which are the subject of patents and patent applications and some of which are included in the technical information which is made available to the purchaser of the machine, and this also applies to the process under which the licensee is licensed. As far as the machine is concerned, ARCT, the licensed manufacturer, is not permitted to make available such embodiments of the technical information except to licensees for their use."

But there was never any doubt that in order to get the machines a purchaser had to sign a license. In the same letter Armitage continued:

"In order to get the machine in the first place from the foreign licensed manufacturer, the purchaser agrees to pay this continuing royalty under the license for its use." (PX 215).

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products, this same technical information and many non-applicable patents were tied to them. The tied products are thus identified as the unpatented technical information and certain patents which admittedly were never applicable to any of the machines purchased by the plaintiffs.

The question thus becomes: Was a substantial amount of commerce in these tied products affected by the tying arrangement? The answer must be in the negative. The rationale underlying the rule in the tying arrangement cases is that

"[Tying agreements] deny competitors free access to the market for the tied product, not because the party imposing the tying requirements has a better product or a lower price but because of his power or leverage in another market. At the same time buyers are forced to forego their free choice between competing products." *Northern Pacific R. Company v. United States*, 356 U.S. 1, 6, 78 S.Ct. 514, 518, 2 L.Ed.2d 545 (1958).

Such is not the case here. The only serious competitor of the defendants at the time DMRC's licensing program began was Leeson. Like ARCT, it was in the business of selling yarn texturing machinery embodying its own patents, and except as it was able to sell these machines to the plaintiff Throwsters there was obviously no market among them for its own patents whether adaptable to the ARCT machines or not. Even if Leeson had possessed its own brand of the nebulous "technical information", as to which the record is silent, it is not readily apparent how it would have been of any use to the purchasers of ARCT machines. It follows that the plaintiffs were not forced to forego their free choice between competing products for there were none.

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“ . . . Unless a defendant can establish certain narrow affirmative defenses, a finding that the defendant's conduct falls within the category of per se tying arrangements disposes of the case in the plaintiff's favor.

“Here, as elsewhere, the per se label can sometimes prove misleading. Per se analysis is susceptible to the unwarranted inference that a plaintiff prevails in a tying case merely by finding some way to characterize the defendant's conduct as a tie . . . To bring a defendant's conduct within the category of ties that are per se violations of the Sherman Act, however, a plaintiff must go beyond some colorable characterization of the arrangement as fitting this rough definition.

“A plaintiff must show that the challenged arrangement is in fact a tie: that two separate products are involved and that, in addition to complying with the literal terms of the imprecise definition, the seller's behavior follows the general pattern found unacceptable in the earlier tying cases. To measure an arrangement against that general pattern we must take into account the principal evils of tie-ins: they may foreclose the tying party's competitors from a segment of the tied product market, and they may deprive the tie's victims of the advantages of shopping around . . .” *Kentucky Fried Chicken v. Diversified Packaging Corporation*, 549 F.2d 368, 375 (5th Cir. 1977).

[675] In summary, although the defendants possessed sufficient market power with respect to the tying products to restrain free competition in the market for the tied products if such market had existed, there was no such market and no commerce in the tied product was affected

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by the arrangement. *Clayton Manufacturing Co. v. Cline*, 427 F.Supp. 78 (C.D. Cal. 1976). The court therefore fails to find an antitrust violation in the tying arrangement charged here.

Some of plaintiffs' charges in connection with the alleged vertical conspiracy will be re-examined later in the section of the memorandum on misuse of patents, but at this point the court concludes that these charges have not been established as antitrust violations.

B. The Horizontal Conspiracy

Plaintiffs' allegations of conspiratorial conduct of the defendants and their principal competitor, Leesona which led to the settlement in 1964 of certain patent litigation then pending between Leesona and the defendants will now be considered. Here again we find the facts are not in substantial dispute, but the parties are poles apart in their interpretation of the facts and their contentions as to the legal significance to be given them.

Plaintiffs contend the settlement was the result of a conspiracy between Leesona and the defendants to preserve and perpetuate their established production royalty licensing programs in which the royalties charged their licensees were virtually identical and not subject to reduction; that this constituted price-fixing in violation of Section 1 of the Sherman Act; and that defendants also conspired to monopolize the false twist machinery industry in violation of Section 2 of the Sherman Act. The defendants deny any wrongdoing and with equal fervor contend that the settlement of this “dangerous litigation” was the result of good faith, arms-length bargaining by the adversary parties all of whom were exercising sound, reasonable and lawful business judgment.

FACTUAL BACKGROUND

The agreement between Chavanoz and DMRC for the licensing in the United States of the ARCT machines was signed on December 31, 1957. At that time the only manufacturer of false twist machines in the American market was Leeson which had begun developing a continuous process false twist machine in the early 1950's and which it began to market in late 1954. This was the Leeson Model 550 or Superloft machine.

Meanwhile, the Permatwist partnership had begun building and marketing attachments for converting conventional textile texturing machines to produce crimped yarns by false twisting. Permatwist filed three patent applications in January, 1954 covering its machine and process which it was marketing under the trademark "Fluflon".

In December, 1954, Leeson and Permatwist entered into an agreement whereby Leeson acquired the pending Permatwist patent applications which eventually matured into United States Patents Nos. 2,803,105, 2,803,108 and 2,803,109, all of which were issued on August 20, 1957. In this agreement Leeson acquired the rights to other related inventions and future improvements as well as Permatwist's rights under its outstanding license agreements covering the Fluflon machines previously sold. In return Permatwist was to receive a share of all royalties collected by Leeson and a portion of the selling price of Leeson's false twist machinery. Thereafter Leeson marketed both the Fluflon machinery and its own Superloft machine.

In the inception the Leeson-Permatwist agreement did not require a production royalty to be charged on the Superloft machines, but purchasers were required to take

a license under the Permatwist patent applications, and the Fluflon attachments were continued to be sold on a production royalty basis. In early 1957 when Leeson began marketing its Model 511 or "Saaba" attachment for use in post-treating stretch yarns produced by the false twist process, purchasers, although required to sign a [676] license agreement, were not required to pay a continuing production royalty.

When Chavanoz and DMRC began to consider introducing the ARCT machinery into the United States under a continuing production royalty license Leeson's Superloft machine was the only integrated false twist machine then being sold in the United States. Chavanoz and DMRC recognized that since the Superloft was being sold on a royalty-free basis, it would seriously affect their proposed production royalty program. Recognizing this threat from the Leeson competition DMRC and Chavanoz had inserted in their 1957 agreement a provision that the production royalty to be charged purchasers of the ARCT machinery would be five per cent of the manufacturer's list price of the raw yarn processed on the machines but that if there were "substantial unlicensed competition" DMRC could adjust the rate to as low as two and one-half per cent, and in view of the continuing sale of the Leeson machines on a royalty-free basis this was the royalty figure charged the DMRC licensees from the beginning.

In an effort to solve this unlicensed competition problem Chavanoz notified Leeson at a time when its dealings with DMRC were still in the negotiation stage that the Superloft machine infringed one or more of the Chavanoz false twist patent applications and suggested that Leeson should take a license under the Chavanoz patents. Leeson declined these suggestions, but Chavanoz never went so

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far as to threaten Leeson with litigation based upon its alleged infringement of any Chavanoz patent, and in fact the Chavanoz patents have never been asserted against the Leeson machines in this country.⁹

The next approach adopted by Chavanoz and DMRC was the institution in November, 1957, by DMRC of an action in the United States District Court for the Eastern District of New York (the "Brooklyn litigation") in which DMRC undertook to obtain the Leeson false twist patents for itself. The complaint was based on the grant-back provisions in an earlier contract between DMRC and Leeson relating to DMRC's edge-crimping ("Agilon") process. Had this suit been successful, DMRC would have been able to bring the Leeson patents under the Chavanoz-DMRC licensing program then being negotiated, and the elimination of this unlicensed competition would have permitted establishment of the DMRC royalty rate at 5%, the maximum rate fixed by the Chavanoz-DMRC agreement.

Leeson eventually won the suit, *Deering Milliken Research Corporation v. Leeson Corporation*, 201 F.Supp. 776 (E.D.N.Y. 1962), *aff'd*, 315 F.2d 475 (2nd Cir. 1963), but in the meantime its outcome had been rendered irrelevant by another development. Prior to the sale of the first ARCT machine in the United States Leeson instituted a new production royalty program of its own, and this cleared the way for Chavanoz and DMRC to do likewise. Leeson's new program followed shortly after its development of a high-speed spindle which greatly increased the

⁹ In February, 1959, Chavanoz sued Leeson in France, claiming that the sale and use of the Superloft machines in that country infringed three Chavanoz patents which were the counterparts of its United States Patents Nos. 2,741,893, 2,761,272 and 2,780,047. This suit was included in the litigation settled in this country in 1964.

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spindle speed of its false twist machines. Under its new program Leeson required purchasers of its false twist machines incorporating its new high speed spindles to sign a license agreement providing for a production royalty of 6¢ per pound on 70 denier yarn.¹⁰ Leeson thereafter applied the same basic royalty schedule to its later model machines.

DMRC received a copy of Leeson's new license agreement on or before October 10, 1958, which was shortly after the decision to implement the licensing program had been made, and this decision was embodied [677] in a modification of the Leeson-Permatwist agreement on October 17, 1958. Although it had not licensed any purchasers of the ARCT machines at that time, DMRC did not move immediately to bring its royalty rate in line with Leeson's.¹¹

Sales of the ARCT machines by Whittin in the United States began in 1959, and on April 1, 1960, Leeson instituted an action in the United States District Court for the Western District of South Carolina against the Judson Mills Division of Cotwool Manufacturing Company (a corporate predecessor of DMI) for infringement of the three patents which it had obtained from the Permatwist applications (the '105, '108 and '109 patents) allegedly resulting from Judson's use of its ARCT machines (the "Cotwool litigation"). Shortly thereafter there was instituted in the

¹⁰ Denier is a unit of weight for yarns of all materials, natural and synthetic, equal to .05 gram per 450 meters. From 1957 and continuing into the late 1960's 70 denier nylon yarn constituted a major portion of the yarn being processed on false twist machines.

¹¹ The initial DMRC royalty of 2½% of the manufacturer's published list price for raw yarn worked out to approximately 4½¢ per pound for 70 denier nylon based on the then prevailing list price of \$1.71 per pound. This list price remained in effect for ten years or more thereafter.

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name of Whitin against Leeson in the United States District Court for the District of Massachusetts a suit for a declaratory judgment that the three Leeson false twist patents were invalid, unenforceable and not infringed by the use of ARCT false twist machines (the "Whitin litigation"). Chavanoz and DMRC were the guiding hands behind the institution and prosecution of this suit in Massachusetts.

In November, 1961, Leeson also began an arbitration proceeding against Schwarzenbach-Huber, one of the plaintiffs herein, which was licensed both by Leeson and DMRC, in which Leeson attempted to collect royalties under its license by reason of Schwarzenbach-Huber's operation of its ARCT machines. Under its licensing agreement DMRC was obliged to defend this arbitration proceeding.

Other legal confrontations between DMRC and Leeson occurred in the United States Patent Office where DMRC undertook through interferences with Leeson to gain control of Leeson's 108 patent and its post-treating Saaba patent No. 2,864,229.

Shortly after the institution of the Cotwool and Whitin litigations, Warren A. Seem, one of the Permatwist partners, wrote to Armitage of DMRC on December 27, 1960 and suggested that negotiations looking to a settlement of the controversies then pending in "three different arenas" should be undertaken.

"[W]e propose that instead of slugging it out in the public square, we join hands and do something good for the industry as well as ourselves.

"[T]he opponents are now engaged in licensing identical processes requiring endless patent litigation. To us it looks like both sides are bound and

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determined to destroy each other and harm the industry they both desire to serve.

"However, being quite familiar with both sides, either by personal contact or reputation, we do not have the slightest doubt that all differences can be settled at the conference table and to the mutual advantage of all concerned. As unauthorized intermediaries, we would like to know whether you are willing to give the conference table another try." (DX 136).

Shortly thereafter meetings were held in early 1961 at which proposals were advanced for settling the Cotwool, Whitin and Brooklyn litigations and the patent interferences. Leeson proposed that DMRC take a Leeson standard manufacturer's license under the terms of which DMRC would receive one-third of the royalties collected. DMRC proposed that the Cotwool and Whitin suits be dismissed with admissions only of the validity of the Leeson patents. During the first meeting Davis of Leeson and Seem confirmed to Armitage of DMRC that the Leeson royalty on 70 denier yarn was 6¢ per pound.

Meanwhile Leeson continued to license other potential competitors in the false twist manufacturing field by sharing one-third of its royalties with them in return for a license to sell false twist machines only to Leeson's licensees. Unlike normal license arrangements, these competing [678] manufacturers, eventually about thirteen in all, paid Leeson nothing for their freedom from its infringement claims but instead were rewarded by a share of the royalties collected by Leeson.¹²

¹² In the same year the present litigation was instituted, 1969, Leeson became the defendant in numerous actions brought by purchasers of its false twist machinery challenging the validity of the

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In March of 1961 Leo Soep, representing Chavanoz, Warren Seem, the Permatwist partner, and Robert Conrad, counsel for Leesona, had a conference in London concerning false twist matters, and during the course of their discussions Soep suggested terms upon which the United States litigation might be settled. Reporting on this conference to Armitage, Soep said:

"As you will remember the DMRC/Chavanoz agreement provides for a royalty reduced to one-half its amount as long as there is substantial unlicensed competition.

"Suppose an agreement is reached with Leesona whereby mutual cross-licensing takes place with the promise of non-assertion of clients, then DMRC will be entitled to increase the rate, and we can consider a split of the increased rate between the three of us.

"Conrad is interested in this proposal but mentioned that he would like an overall arrangement with DMRC . . .

(footnote continued from preceding page)

Leesona patents and asserting antitrust claims. Several of the plaintiffs in the present litigation were parties plaintiff to those actions which were finally consolidated in the United States District Court for the Southern District of Florida and assigned to the Honorable Clyde Atkins, United States District Judge. In an order of July 11, 1974, Judge Atkins granted summary judgment holding the manufacturing license agreements mentioned herein which Leesona had signed with the various machinery manufacturers to be in violation of Sections 1 and 2 of the Sherman Act. This decision was affirmed by the United States Court of Appeals for the Fifth Circuit on November 5, 1976. *In Re Yarn Processing Patent Validity Litigation*, 541 F.2d 1127, rehearing and rehearing en banc denied, February 3, 1977 [cert. denied, *Lex. Tex. L.T.D., Inc. v. Universal Textured Yarns, Inc.*, 433 U.S. 910, 97 S.Ct. 2976, 53 L.Ed.2d 1094 (1977)]. Although as previously noted this case is not regarded as controlling on the price-fixing aspect of the alleged vertical conspiracy, it is considered, as will be seen, to be highly germane to the alleged horizontal conspiracy.

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"I do not mind to tie in the Chavanoz problems with the specific DMRC ones if necessary, but I feel that this is not entirely the case. However if it serves your interest, I do not mind." (PX 1043).

The Soep proposal met with strong objection by Waters of Whitin who could see only a doubling of the DMRC royalty rate while the Leesona rate remained the same thus making it more difficult for him to sell the ARCT machines in the face of the Leesona competition. And, of course, since Whitin did not share in the production royalties in any event, there was nothing in the Soep proposition for Whitin.

Apparently nothing came of the 1961 settlement discussions, and between 1961 and 1963 the record reflects no further formal settlement negotiations. During this period the Cotwool litigation was consolidated with the Whitin litigation in the District of Massachusetts over Leesona's strong objection, and the Schwarzenbach-Huber arbitration proceeding was stayed from March, 1961, until April, 1963.

On May 21, 1963, Albert Davis, house, counsel for Leesona on patent matters, and Soep met in Paris to discuss the possibility of settling both the United States and French litigations, and Soep's memorandum of the conference made the following day indicates that Davis renewed Leesona's previous proposal that it grant to Chavanoz and its affiliates a license to manufacture and sell false twist machinery to Leesona's licensees and that Leesona's standard license agreement be modified to the extent necessary to make it applicable to users of the ARCT machines. The royalty rate would continue at 6¢ per pound for 70 denier yarn and Leesona would pay Chavanoz and its affiliates one-third

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of the royalties collected from the licensed users of the ARCT machines. Soep further reported:

"Chavanoz having consulted DMRC, has obtained from this company the agreement in principle to sharing royalties [679] presently received with Leesona. There are three variations possible:

"(a) DMRC reduces its royalties by a certain amount, Chavanoz by a larger amount, and the total sum of this deducted royalty is paid by DMRC and Chavanoz to Leesona in exchange for a hold harmless clause.

"(b) Chavanoz and DMRC pay an annual fixed royalty taken from royalties received from their customers to Leesona against an exchange of a hold harmless clause and

"(c) Chavanoz and DMRC pay a fixed sum in one payment to Leesona against an exchange of a hold harmless clause.

"An intermediate solution has also been endeavored: Chavanoz and Leesona pool their interests and form a non-profit joint association, for the promotion of stretch yarn in the U.S. This organization would do the showing of both type of machinery produced by Leesona and by ARCT so that a reduction of promotion costs would result to the benefit of Leesona and of Chavanoz.

"This solution should, however, be considered very carefully from the angle of antitrust law." (PX 363).

Following the discussions between Davis and Soep there were discussions between Davis and Whitin's house counsel, Ward Smith, in May and June of 1963, which led to a

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conference between the principals on June 18, 1963, at the Algonquin Club in Boston. At this meeting apparently neither side was willing to make any substantial change in its previous negotiation position, and the consequence was that the meeting broke up without much having been accomplished toward settlement.

Prior to the Algonquin conference, however, there had been one significant development on the DMRC side. On June 12, 1963, despite the problems Whitin was having in selling machines because of the pendency of the litigation, DMRC, Chavanoz and Whitin agreed to raise the DMRC production royalty rate from $2\frac{1}{2}\%$ to $3\frac{1}{2}\%$. This increase brought the DMRC royalty rate in line with Leesona's with respect to 70 denier nylon yarn since application of the new rate to the long-established list price of \$1.71 per pound for the raw yarn resulted in a charge of \$.05985 per pound as against Leesona's 6¢ per pound. The new agreement provided that .6% of the royalties to be collected would go directly to DMRC and the remaining 2.9% would go into an escrow fund to be refunded to DMRC's new licensees in the event the litigation with Leesona terminated adversely to Chavanoz and its affiliates.

Following the Algonquin conference apparently no further settlement discussions occurred between the adversaries until late 1963 when it became known that the Cot-wool and Whitin litigations which had been consolidated would be scheduled for trial in Boston early in 1964. However, the subject of settlement remained alive between Leesona and the Permatwist partners whose interest would be affected by any settlement because of their arrangement with Leesona. In a memorandum of a conference with Permatwist on August 6, 1963, Robert Leeson recorded that

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"What we offer [Permatwist] is a good deal on any way of looking at it. 1. Approx. 10% on value of machine export, and 2. One-half of royalty (illegible) and we do everything in our power to sell machines so we can get (illegible) .04 for both of us; and everything to settle so that all competitors charge a royalty." (PX 353).

In December, 1963, Leeson was able through certain procedural maneuvers to forestall an immediate trial of the case in Boston, and on January 23, 1964, Armitage and Leeson had a further settlement conference. Like its predecessors this conference resulted in an impasse, Armitage maintaining the position that Leeson should accept a lump sum settlement based on the estimated cost of continuing the litigation and Leeson continuing to insist that the ARCT licenses be licensed under the Leeson patents and that production royalties be divided two-thirds to Leeson and one-third to DMRC/Chavanoz. Reporting on this conference Leeson wrote that he told Armitage

[680] ". . . that he should ask Soep to reconsider his mathematics—there is more at stake than the cost of a suit. If you win, you lose, and if you lose, you lose—because if the patent is broken, there will be no royalty." (PX 338).

Armitage thereafter reported this conference to Roger Milliken, president and chief executive officer of the Deering Milliken enterprises, and a few days later Milliken conferred with Leeson. This was followed by another conference between Milliken and Leeson in February of 1964, and in consequence of this second conference Armitage prepared and mailed to Leeson a draft of a settlement proposal on March 3, 1964, which incorporated Armitage's understanding of the conversations between Milliken and Leeson.

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Meanwhile, on February 28, 1964, a Canadian court had rendered a decision upholding the Leeson patents in an action brought against Leeson in Canada by the Scragg Company, a British manufacturer of false twist machinery. There is no evidence that this decision had been brought to the attention of Armitage before he prepared the settlement draft sent to Leeson four days later, and the court is satisfied that this proposed settlement draft was the outgrowth of Milliken's conferences with Leeson and was in no way inspired by the Canadian court's decision in the *Scragg* case.¹³

Negotiations over the specific terms of the agreement continued throughout March, 1964, and on March 20, 1964, Davis of Leeson mailed Armitage a draft settlement agreement which contained the same basic provisions as the agreement finally signed. The parties mutually covenanted not to sue each other's licensees and DMRC agreed to pay Leeson \$150,000 out of future royalties, a figure arrived at after Armitage had given Leeson an estimate of DMRC's projected royalty income. In a recorded telephone discussion of this draft agreement between Armitage and Davis on March 24, 1964, it was agreed in view of its antitrust implications to delete a provision which would have required

¹³ As a matter of fact there were findings in this Canadian case which would have been favorable to DMRC's efforts to invalidate the Leeson patents under Section 102 of the United States patent law, 35 U.S.C. § 102. In the Canadian case it was to Leeson's interest that it establish the earliest invention date possible for the Canadian counterparts of its United States patents Nos. 105, 108 and 109, and it alleged that the inventions embodied in those patents were in fact made in July 1947, a position which the Canadian court in effect adopted. In the Florida litigation, *In Re Yarn Processing*, *supra*, Judge Atkins held Leeson collaterally estopped to assert to the contrary, and he invalidated the United States patents on summary judgment in a decision reported in 360 F.Supp. 74 (1973), which was later reversed in another appeal, *In Re Yarn Processing Patent Validity Litigation*, 498 F.2d 271 (5th Cir. 1974).

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DMRC to maintain its rate of payments toward the \$150,000 even if DMRC reduced its royalty rate. Armitage explained to Davis that DMRC's only source of revenue was the royalties and that if either side reduced royalties the other would have to do so. Armitage went on to explain that "there is no reason for us to reduce royalties unless you force us to do so", and Davis agreed with this. Armitage further stated that he would dislike to have anything in the agreement "that looks like a penalty against reducing royalty rates because I have in mind this antitrust thing." (PX 222).

Although the final settlement apparently was not agreed upon until some time in April, four settlement agreement documents between defendants and Leeson were signed as of March 31, 1964, the principal one with which the present litigation is concerned being the one that settled all existing litigation between the parties in the United States (PX 223, Tab A).

The agreement is in the form of an exchange of mutual cross-covenants of the parties not to sue each other or customers of the other under certain listed existing patents with respect to presently existing and future machines and under specified existing patents as well as future patents with respect to presently existing machines provided the machines are licensed either by Leeson or Chavanoz. Unlicensed machines [681] receive no protection, and in his recorded telephone conversation with Davis Armitage had stated ". . . if they are not licensees we are not interested in what you do to them and you are probably not interested in what we do to them . . ." As consideration for the settlement DMRC agreed to pay Leeson 10% of the DMRC royalties collected until \$150,000 had been paid. All of the litigation pending between the parties in the United States

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was to be dismissed without prejudice with each side bearing its own costs.

The actual terms of the settlement were not made public, but in a jointly issued press release the out-of-court settlement of all stretch yarn patent litigation previously pending between the parties was announced. The press release contained the statement that the settlement had followed "close on the heels of the February 28, 1964 decision" of the Canadian court upholding the validity of Leeson's stretch yarn patents in Canada (PX 343). Although factually accurate, this statement was misleading for that, as previously stated, the court is satisfied that the Canadian court decision was not a motivating factor in the settlement. Further evidence that it was not is to be found in the fact that instead of bolstering Leeson's bargaining position as might have been expected, the Canadian decision apparently had no such effect, for it was Leeson and not DMRC which finally retreated from its hard line position in which it had consistently refused to offer a settlement on any basis other than a two-thirds/one-third split of royalties with DMRC with Leeson receiving the larger share.

The settlement agreement itself contained a recital which made it appear to settle more than was actually involved in the pending litigation when it stated that "Chavanoz, DMRC and Whittin allege that certain of the aforementioned Chavanoz patents are infringed by the manufacture, sale or use of certain Leeson yarn processing equipment by Leeson and/or its customers". The fact is that the possible infringement of Chavanoz's United States patents by Leeson had never been an issue in any of the litigation and that these patents had never been formally asserted against Leeson.

Certain documents written shortly after the consummation of the settlement agreement shed further light on the

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intent of the parties with respect to the reasons underlying the settlement. For instance, following a telephone conference with Armitage concerning the wording of the joint press release to be issued a Whitin vice president wrote to Armitage a "personal and confidential" letter dated April 8, 1964, in which he stated:

"We grant the desirability of indicating to the world at large that the Leeson and Chavanoz patents are strong and that competition against them from any outside source would be difficult at best." (PX 344).

A few days later Armitage wrote to a Finnish manufacturer of false twist machines who was seeking a United States representative and explained that as a result of the March 31, 1964 settlement agreement the validity of the Leeson patents was undisputed and that "this would put a very considerable burden upon anyone attempting to introduce another false twist machine in the United States." (PX 533).

Another example of the cooperation between these parties following the settlement was the action of Armitage following his receipt of notice that Turbo Machine Company planned to offer for sale on a royalty-free basis a limited purpose texturizing machine of the false twist type. Recognizing that "this development can be harmful to our program", Armitage requested that a study be made to determine if the Turbo machine infringed any of the Chavanoz patents at the same time observing that the Turbo machine probably infringed Leeson's patents, and if so, that he "should like to call this to Leeson's attention for whatever action they may feel advisable to take." (PX 463).

In summary, the massive volume of evidence offered at the trial and again reviewed in detail post-trial has served to

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[682] satisfy the court by its substantial preponderance that the dominant purpose of the March 31, 1964 agreement, as reflected in the statements and conduct of the participants both before and after that date and in the terms of the agreement itself, was anti-competitive, that purpose being to preserve and enhance the interdependent royalty programs of Leeson and Chavanoz/DMRC which a trial of the pending litigation might well have destroyed. The court is unable to accept the explanation proffered by DMRC and Chavanoz that they feared the Leeson patents might be upheld, for they had long had the opinion of eminent counsel that these patents were invalid, a judgment which was temporarily vindicated by Judge Atkins in the Florida litigation.¹⁴ The validity of the Chavanoz patents was not jeopardized, for the validity of these patents had not been brought into issue in the litigation. Nor was concern for the sales of ARCT machines a basis for the settlement, the evidence showing that the sales of these machines at the time of the settlement were booming.

A contention advanced by Robert Waters in his testimony that a Leeson victory in the litigation would have put Whitin out of business is not convincing. It is true that a judgment holding the Leeson's patents valid would have allowed Leeson's license program to continue, and if the judgment had also held the ARCT machines to infringe the Leeson patents, it would have been necessary to license them under the Leeson patents. In this event, however, Whitin and ARCT-France would have been entitled to one-

¹⁴ As noted in Footnote 13, Judge Atkins held the Leeson patents invalid on summary judgment, but on appeal the Fifth Circuit held there were issues of fact requiring a trial. *In Re Yarn Processing Patent Validity Litigation*, 498 F.2d 271 (1974). The court understands that thereafter there were various settlements and that no trial to test the validity of the Leeson patents was held.

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third of the production royalties collected by Leeson at least until the Leeson licensing program for its competitor manufacturers was knocked out by the Fifth Circuit in the *In Re Yarn Processing* case, *supra*. Leeson doubtless would have offered its standard manufacturer's license to Whittin, for its first offer of settlement of the Whittin litigation to which it adhered almost to the end contemplated this very arrangement. Thus Whittin for the first time would have become a beneficiary rather than a reluctant and unpaid participant in a production royalty program.

In addition to the foregoing findings of fact with respect to the alleged horizontal conspiracy the court expressly adopts as its own the following proposed findings of fact submitted by the parties.

1. Plaintiffs' proposed findings of fact on the antitrust issues Nos. 15.1-15.10 inclusive, 15.12-15.27 inclusive, 15.29-15.53; 15.55-15.60 inclusive, 15.61 except for its last paragraph, 15.62-15.82 inclusive, 15.84 and 15.85; also 15.54 omitting "ARCT-France."

2. Chavanoz, DMRC and DMI proposed findings of fact on the anti-trust issues under Section II, Nos. 1-25 inclusive, the first sentence in No. 26, 27, 28, 30-34 inclusive, the first sentence of 35, 36, 37 except for its first sentence, and with this addition: "In the case of Gibbs and Smith, they took a Leeson manufacturer's license in which *Leeson paid them* to sell to its licensees while there were lucrative side deals in favor of both Madison and Burlington." (See PX 1249; PX 1250; Tr. Vol. 83, pp. 16,096-103); No. 38, the first sentence only of 39, 42-58 inclusive, 60-63 inclusive, 66, 68, the first sentence only of No. 70, 73, 75, 77, 79-81 inclusive, 82 with the exception of the statement in parenthesis, the first four sentences of No. 83, 84-86 inclusive, 88, 94 except for its last two sentences, 95-98 inclusive, 100, the first sentence of 101, 105, 117 and 118.

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3. ARCT-France's proposed findings of fact Nos. 35 with the exception of the clause in the first sentence reading "to the point where only one or two sales were made during the entire year 1962", 36, 37, 39, the first sentence only of No. 40 and 42.

4. ARCT, Inc.'s proposed findings of fact Nos. 43-45 inclusive, 47 except for its last paragraph, 48 except for the last sentence [683] in the second paragraph and the entire last paragraph 72, 73, 81-84 inclusive, 86 and 87.

Additional findings of fact will be made later in connection with the individual cases of DMI, ARCT-France and ARCT, Inc.

LEGAL CONCLUSIONS— HORIZONTAL CONSPIRACY

I. *Jurisdiction and Venue.*

The court has jurisdiction of these actions under 28 U.S.C. §§ 1331, 1332, 1337, 1338, 2201 and 2202 and under 15 U.S.C. §§ 15 and 26. Venue is proper under 28 U.S.C. §§ 1291(c) and 1291(d) and under 15 U.S.C. §§ 15 and 22.

The commerce involved in or affected by the matters in controversy is interstate and foreign commerce within the meaning of Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1 and 2, and the Wilson Tariff Act, 15 U.S.C. § 8.

II. *Liability of Defendants.*

The application of settled antitrust legal principles to the fact findings detailed above has led the court to conclude that there accompanied the settlement of March 31, 1964, the intent and an implicit agreement to stabilize and maintain production royalty rates and to monopolize the false twist machinery market in the United States; and that the

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actions pursuant thereto by at least some of the parties constituted violations of Sections 1 and 2 of the Sherman Act. These principles will now be reviewed and their application to the conduct and actions of the separate defendants will be considered.

1. Although settlements of patent litigation are normally as desirable as settlements of other types of litigation, *Aro Corporation v. Allied Witan Company*, 531 F.2d 1368 (6th Cir. 1976), settlements of such litigation are not sanctioned by the courts when they are attended by anti-competitive results. *United States v. New Wrinkle, Inc.*, 342 U.S. 371, 72 S.Ct. 350, 96 L.Ed. 417 (1952); *United States v. Line Material Company*, 333 U.S. 287, 68 S.Ct. 550, 92 L.Ed. 701 (1948); *Standard Oil Company v. United States*, 283 U.S. 163, 51 S.Ct. 421, 75 L.Ed. 926 (1931); *Duplan Corporation v. Deering Milliken, Inc.*, 540 F.2d 1215 (4th Cir. 1976); *Westinghouse Electric Corporation v. Bulldog Electric Products Company*, 179 F.2d 139 (4th Cir. 1950).^{14A}

2. Agreements in violation of the antitrust laws may be inferred from the actions and conduct of the parties and need not rest solely on direct testimony. *United States v. Container Corporation of America*, 393 U.S. 333, 89 S.Ct. 510, 21 L.Ed.2d 526 (1969); *United States v. Masonite Corporation*, 316 U.S. 265, 62 S.Ct. 1070, 86 L.Ed. 1461 (1942); *Interstate Circuit, Inc. v. United States*, 306 U.S. 208, 59 S.Ct. 467, 83 L.Ed. 610 (1939); *Eastern States Retail Lumber Dealers Association v. United States*, 234 U.S. 600, 34 S.Ct. 951, 58 L.Ed. 1490 (1914).

"Acceptance by competitors, without previous agreement, of an invitation to participate in a plan,

^{14A} See Timberg, "Antitrust Aspects of Patent Litigation, Arbitration and Settlement," 59 Journal of the Patent Office Society 244 (April 1977).

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the necessary consequence of which, if carried out, is restraint of interstate commerce, is sufficient to establish an unlawful conspiracy under the Sherman Act." *Interstate Circuit, Inc. v. United States*, *supra*, 306 U.S. at p. 227, 59 S.Ct. at p. 474.

3. However, proof of agreement, express or implied, is indispensable to the establishment of a conspiracy under the antitrust laws, and evidence of consciously parallel behavior of competitors, while affording some proof of agreement, is not conclusive. *Theatre Enterprises, Inc. v. Paramount Film Distributing Corporation*, 346 U.S. 537, 74 S.Ct. 257, 98 L.Ed. 273 (1954).

4. Even if alleged antitrust violators do not intend anti-competitive results, a conspiracy between them may yet be proven by a series of actions purposely taken by them which have an anti-competitive result. [684] *United States v. Singer Manufacturing Company*, 374 U.S. 174, 83 S.Ct. 1773, 10 L.Ed.2d 823 (1963); *American Tobacco Company v. United States*, 328 U.S. 781, 66 S.Ct. 1125, 90 L.Ed. 1575 (1946).

5. Horizontal price-fixing constitutes a per se violation of Section 1 of the Sherman Act. *United States v. Container Corporation of America*, *supra*; *Hartford-Empire Company v. United States*, 323 U.S. 386, 65 S.Ct. 373, 89 L.Ed. 322 (1945); *Standard Oil Company v. United States*, 283 U.S. 163, 51 S.Ct. 421, 75 L.Ed. 926 (1931).

6. Action purposely taken to stabilize prices constitute a per se violation of Section 1 of the Sherman Act. *United States v. Socony-Vacuum Oil Company*, 310 U.S. 150, 60 S.Ct. 811, 84 L.Ed. 1129 (1940); *United States v. Gasoline Retailers Association*, 285 F.2d 688 (7th Cir. 1961).

7. An inference of conspiracy may be drawn from the fact that competitors maintain parallel pricing structures

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which are interdependent. *Wall Products Company v. National Gypsum Company*, 326 F.Supp. 295 (N.D.Cal.1971).

8. In cases involving patents if an agreement transcends what is necessary to protect the use of the patent or the patent monopoly it may be found to violate the antitrust laws. *Standard Sanitary Manufacturing Company v. United States*, 226 U.S. 20, 33 S.Ct. 9, 57 L.Ed. 107 (1912).

9. Although an arrangement under which patents are pooled is not per se illegal,

“[i]f combining patent owners effectively dominate an industry, the power to fix and maintain royalties is tantamount to the power to fix prices . . . Where domination exists, a pooling of competing process patents, or an exchange of licenses for the purpose of curtailing the manufacture and supply of an unpatented product, is beyond the privileges conferred by the patents and constitutes a violation of the Sherman Act. The lawful individual monopolies granted by the patent statutes cannot be unitedly exercised to restrain competition.” *Standard Oil Company v. United States*, 283 U.S. 163, 174, 51 S.Ct. 421-425, 75 L.Ed. 926 (1931).

10. Patents as exceptions to the general rule against monopolies are affected with a public interest.

“The far-reaching social and economic consequences of a patent, therefore, give the public a paramount interest in seeing that patent monopolies spring from backgrounds free from fraud or other inequitable conduct and that such monopolies are kept within their legitimate scope.” *Precision Instrument Manufacturing Company v. Automotive Maintenance Machinery Company*, 324 U.S. 806, 816, 65 S.Ct. 993, 998, 89 L.Ed. 1381 (1945).

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Authoritative testing of patent validity is encouraged, and the doctrine of licensee estoppel is no longer the law. *Lear v. Adkins*, 395 U.S. 653, 89 S.Ct. 1902, 23 L.Ed.2d 610 (1969).¹⁵

11. The two elements of monopolization under Section 2 of the Sherman Act are (1) the possession of monopoly power in the relevant market and (2) intent to monopolize. The willful acquisition or maintenance of monopoly power as distinguished from growth or development in consequence of a superior product, business acumen or historic accident is evidence of an intent to monopolize. *United States v. Grinnell Corporation*, 384 U.S. 563, 86 S.Ct. 1698, 16 L.Ed.2d 778 (1966).

12. Section 2 of the Sherman Act condemns any enterprise which has exercised power to control a defined market if that power is to any substantial extent the result of barriers erected by its own business methods—even though not predatory, immoral or violative of Section 1 of the Act—unless it is shown that the barriers [685] are exclusively the result of superior skills, superior products, natural advantages, business acumen or the like. *United States v. United Shoe Machinery Corporation*, 110 F.Supp. 295 (D.Mass. 1953), *aff'd*, 347 U.S. 521, 74 S.Ct. 699, 98 L.Ed. 910 (1954).

13. The use of monopoly power, however lawfully acquired, to foreclose competition, to gain a competitive advantage or to destroy a competitor is a violation of Section

¹⁵ The change in the law wrought by *Lear v. Adkins* made possible the present litigation. For an insightful commentary on the case by the Honorable Simon H. Rifkind, of counsel here, see American Patent Law Association Bulletin, October-November, 1972, p. 696 at p. 699 et seq.

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2 of the Sherman Act. *United States v. Griffith*, 334 U.S. 100, 68 S.Ct. 941, 92 L.Ed. 1236 (1948).

14. To support a recovery under either Sections 1 or 2 of the Sherman Act it is necessary for a plaintiff to show that by reason of the violation complained of he has been injured in his business or property. Section 4 of the Clayton Act, 15 U.S.C. § 15.

The task of applying these settled principles to the facts of this case must now be performed.

A. Liability of Chavanoz and DMRC.

As has been previously noted, Chavanoz and DMRC were responsible for the institution and prosecution of the Whitin litigation in Boston. It was their reaction to the Cotwool litigation which Leesona had instituted shortly before in South Carolina. If there is liability, these two parties are *in pari delicto*, and the cases against them will be considered as one.

The conclusion that the royalty programs of Leesona and Chavanoz/DMRC were interdependent is inescapable. The record contains plenary evidence of this fact and the awareness of it by the parties on both sides. Simply stated, it would not have been economically feasible to market a false twist machine bearing a substantial production royalty in competition with one being sold royalty-free. The natural result was a desire on the part of each side to preserve its own lucrative licensing program.

In order to achieve this mutually-shared objective Leesona, DMRC and Chavanoz entered into the settlement agreement of March 31, 1964. While on its face the agreement would not seem to offend the antitrust laws, when considered in the light of the surrounding circumstances and

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the actions of the parties both before and after its execution, the conclusion is that the agreement was anti-competitive and a restraint on interstate commerce in violation of Section 1 of the Sherman Act. This conclusion is supported by both the direct and circumstantial evidence previously outlined which in summary form is recapitulated as follows:

1. At the time of the introduction of the ARCT machines into the United States in 1959 the false twist machinery market was completely dominated by Leesona.

2. Since Leesona's machines were being sold without royalty, it was a matter of concern to Chavanoz and DMRC that the machines on which they hoped to collect royalties would be faced by Leesona's unlicensed competition.

3. Before the ARCT sales program got underway, however, Leesona instituted its own production royalty program.

4. Thereafter Leesona instituted its manufacturers licensing program with its unusual provision that competing manufacturers of false twist machinery instead of paying royalties to Leesona would in fact receive one-third of the production royalties being collected by Leesona from its licensees but on the condition that the licensed manufacturers sell only to Leesona licensees.

5. The increase in DMRC's royalty rate brought it in line with Leesona's rate on 70 denier yarn which constituted about 80% of the false twist production at that time.¹⁶

¹⁶ Unquestionably the escrow arrangement which contained this royalty increase had as one of its purposes the offer of security to new purchasers of ARCT equipment against the possibility of having to

(footnote continued on following page)

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[686] 6. Information as to royalty rates was communicated between the parties as was their recognition of the mutual interdependence of their respective royalty programs.

7. The Leeson patents in suit were known by DMRC and Chavanoz to be weak and, as they had been advised by highly qualified patent counsel, they were confident that these patents could be invalidated. At the same time the validity of the Chavanoz patents was not in issue. Leeson feared a showdown and had always settled its patent litigation short of trial. Insofar as the court is informed, no American court has held these particular patents valid after a trial.¹⁷ Nevertheless, DMRC and Chavanoz were willing to join in a settlement which insured that these patents of dubious validity as well as their own would be immune from attack under the licensee estoppel doctrine which was then the law.

8. The settlement agreement, itself with its cross-covenants not to sue amounted in effect to the cross-licensing of the Chavanoz and Leeson patents by the two patent owners who effectively dominated the false twist industry, and this gave them the power to fix and maintain prices

(footnote continued from preceding page)

pay royalties to Leeson as well as DMRC in the event Leeson won the suit, but to assume that it escaped the notice of Armitage that raising DMRC's royalty rate from 2½% to 3½% of the manufacturer's list price brought DMRC's royalty rates into virtual parity with Leeson's for all practical purposes would be to ascribe to him a naivete totally foreign to his character. Actually, an escrow fund was never established, but after the settlement the increased royalty rate remained in effect.

¹⁷ The decision of the Canadian trial court upholding these patents would not be controlling in the United States. *Ditto, Inc. v. Minnesota Mining & Manufacturing Company*, 336 F.2d 67, 70 (8th Cir. 1964).

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in the form of royalties which they consistently exercised thereafter.¹⁸

9. A misleading press release was prepared by the parties announcing the settlement to the industry.

10. The conduct of the parties following the settlement showed their cooperation in adhering to the program of fixed and stabilized royalty rates and their cooperation in keeping out competition. That they intended the settlement to have this effect is manifest on this record.

The court has also concluded that the settlement agreement of March 31, 1964, resulted in monopolization of the market in the sale and licensing of false twist texturing machinery, processes and technology by Leeson, DMRC and Chavanoz in violation of Section 2 of the Sherman Act. As previously stated, Leeson was the only manufacturer in this market when the ARCT machines came on the scene in 1959, and the Leeson and ARCT machines almost completely dominated the market for more than ten years thereafter. DMRC and Chavanoz controlled the sale of the ARCT machines in the United States, and in combination with Leeson there is no question that they possessed monopoly power in the relevant market. Their intent to monopolize is amply evidenced by their willful acquisition and maintenance of that power, not as the result of superior skills, superior products, natural advantages, business acumen, or the like, but as the result of barriers erected by their own business methods for the purpose of foreclosing competition.

¹⁸ It is interesting that under one of the settlement agreements between DMRC and Leeson alone DMRC for no additional consideration was granted a license under Leeson's patents insofar as they might be applicable to DMRC's Agilon (edge-crimping) process (PX 233, Tab B).

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In addition to the foregoing antitrust violations DMRC and Chavanoz by means of their trade-restraining combination with Leeson have knowingly facilitated the combination between Leeson and other competing manufacturers of false twist machines pursuant to licensing agreements which have been held by the Fifth Circuit to constitute per se violations of Sections 1 and 2 of the Sherman Act, *In Re Yarn Processing Patent Validity Litigation*, 541 F.2d 1127 (1976), and by aiding Leeson in the furtherance of conduct thus held violative of the Sherman Act DMRC and Chavanoz have themselves violated the Act.

Defendants' arguments have been carefully considered but have been found unpersuasive. It is true that certain pressures were operating on Leeson which made settlement advisable from its standpoint. It had been engaged in expensive litigation for seven years and it was facing formidable, [687] well-financed adversaries. The contention that the court in which the case was pending was notoriously unfriendly to patents is hardly worthy of mention, but in any event these several "pressures" could have been promptly alleviated by the acceptance by Leeson of the first offer of settlement made by its adversaries: a judgment declaring Leeson's patents valid but not infringed.

Assuming the validity of the reasons advanced for Leeson's interest in settlement, these same reasons afforded an additional cause for DMRC and Chavanoz not to settle. But it is said that there were various other pressures operating on these defendants, too, among which were the expense of fighting the suit, the decision of the Canadian court upholding the Leeson patents, the non-

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profitability of the DMRC licensing program¹⁹ and the burden on sales which the pendency of the litigation created.

The prosecution or defense of litigation is, of course, expensive, but there is nothing in this record to show that for either side the point had been reached where "the game was not worth the candle." As has already been noted, the court is not persuaded that the outcome of the Canadian case had any appreciable influence on the decision of DMRC and Chavanoz to settle. The profitability of the licensing program was dependent on sales of the ARCT machines, and the fact is that sales were booming at the time of the settlement.

Had Leeson won the suit, defendants argue, it would have been "heaven" for Leeson and "total disaster" for defendants. The court does not envisage that such dire consequences would have attended a Leeson victory. Certainly a judgment limited only to a declaration of the validity of the Leeson patents would have had no such effect, and even if coupled with a finding of infringement of those patents by the ARCT machines, as heretofore suggested, all would not have been lost.

Although defendants' arguments are not without logical appeal, the definite impression still persists that DMRC and Chavanoz entered into the Whitin litigation confidently expecting to win it and inflict "total disaster" on Leeson. As the case wore on it became more and more apparent to both sides that the results of victory might well be out-

¹⁹ "Your Honor will perhaps recall that the licensing program so far as DMRC was concerned was still in the red and that Roger Milliken was a man who liked operations which were in the black." Defendants' Closing Argument, Tr. 88, p. 16,877.

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weighed by the possibility of facing unlicensed competition in the false twist machinery market, a thought epitomized in Leeson's statement to Armitage: "If you win you lose, and if you lose, you lose—because if the patent is broken, there will be no royalty" (PX 338). This thinking finally prevailed, and the settlement of March 31, 1964 with its trade-restraining, anti-competitive results soon followed.

On the question of the impact these results had on the plaintiffs it is not seriously challenged that unless the plaintiffs in this action signed the DMRC use license and paid the required royalties they could not obtain the ARCT machines which they badly needed in their businesses. The sizable royalty income collected by DMRC in the years following the settlement affords graphic proof of the impact which the program had upon those businesses.²⁰ The court concludes that as a direct consequence of the violations of Sections 1 and 2 of the Sherman Act by DMRC and Chavanoz the plaintiffs have been injured in their business and property within the purview of 15 U.S.C. § 15. *Zenith Radio Corporation v. Hazeltine Research*, 395 U.S. 100, 113, 89 S.Ct. 1562, 23 L.Ed.2d 129 (1969); *Response of Carolina, Inc. v. Leasco Response, Inc.*, 537 F.2d 1307, 1321 (5th Cir. 1976).

²⁰ In its answer to plaintiffs' interrogatory DMRC listed its royalty income from the beginning of the program through 1973 as follows (PX 1062):

1959 — \$ 1,000.00	1966 — \$ 858,674.79
1960 — 3,406.36	1967 — 1,337,534.73
1961 — 15,035.02	1968 — 2,032,787.63
1962 — 44,795.49	1969 — 3,329,302.86
1963 — 75,993.74	1970 — 1,780,287.64
1964 — 123,302.05	1971 — 874,771.16
1965 — 476,118.90	1972 — 982,639.68

Memorandum Opinion—444 F. Supp. 648 (D.S.C. 1977)[688] B. *Liability of DMI.*

Plaintiffs seek to hold Deering Milliken, Inc. liable with respect to the Leeson settlement on the theory that its wholly owned subsidiary, DMRC, was at all times acting as its agent or alter ego. DMI strongly resists, contending that the two companies operated at all times as separate corporate entities and that DMI's involvement in the settlement was limited solely to the action of its president and chief executive officer, Roger Milliken, in arranging for a meeting between Norman Armitage and Robert Leeson in which settlement negotiations could be resumed. The court has concluded that DMI was in fact far more deeply involved and that DMRC's liability should attach to DMI under agency principles.

DMRC is the successor corporation to a Massachusetts trust, Deering Milliken Research Trust, formed in late 1945 by two New England textile mills which were affiliated with Deering Milliken, Inc. These two mills were later joined by fifteen or more other textile mills which were selling through the Deering Milliken organization, the purpose being to conduct research primarily in the textile field for the benefit of the member companies of the trust. When DMRC was formed in 1955, DMI became the owner of all its issued stock, and it succeeded to the research activities of the research trust and was thereafter operated for the benefit of Deering Milliken, Inc. and its subsidiaries.

DMRC owns no real estate, but it has other fixed assets such as machinery and furniture. Its operating revenue is obtained through two sources, its licensing programs and the research work it does for DMI. As late as 1972 the revenue from its licensing programs had not been sufficient

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to cover DMRC's operating expenses. Deficiencies are made up by DMI. DMRC has never declared a dividend, but if it did DMI as its sole stockholder would receive the dividend.

Roger Milliken is the president and chief executive officer of DMI, a very large, privately-held, diversified textile manufacturer engaged in a broad range of commercial textile operations. It employs 22,000 people in sixty-five plants located throughout the United States and Europe.

Mr. Milliken is a man of exceptional ability and stature, and in addition to overseeing the operation of his own huge industrial empire, he holds directorships in several other industrial and financial institutions of national importance.

Despite the demands on his time which his many outside activities involve the impression persists that Mr. Milliken maintains strong personal control over DMI and its subsidiaries, and although he must of necessity rely heavily on the managing officers of the various subsidiaries, major decisions are made by him.

The Leeson settlement certainly was such a major decision, and there is little doubt that Mr. Milliken himself worked out the basic terms of the agreement which was eventually signed. Evidence of this is to be found in Armitage's letter to Leeson of March 3, 1964 (PX 220), the first paragraph of which read as follows:

"Attached is a draft which I dictated for Roger's inspection and primarily to be sure that there was no misunderstanding between him and me as to his recollection of his conversation with you. The only point which I did not include was that which I mentioned to you on the telephone this morning, as I felt

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that it was not of sufficient importance to either of us."

By contrast, Jerry Cogan, who was DMRC's executive vice president at the time of the settlement, and later its president, testified that he had nothing to do with the settlement and knew nothing about it until after it had been consummated. He said that he "assumed" that Armitage had had the final say-so in the matter but that he did not know. Cogan said that after he became president of DMRC he learned for the first time that his company was paying royalties to Leeson. There is no doubt that Mr. Milliken oversees his work, Cogan testified, and the person to [689] whom he reports most regularly and keeps fully advised as to what he is doing is Mr. Milliken.

At one time DMRC started research in the chemical field, but when the manufacture of chemicals became a thriving business, it was transferred by Mr. Milliken from DMRC and became a separate division of DMI.

In addition to the foregoing findings of fact with respect to DMRC's corporate relationship to DMI the court expressly adopts as its own plaintiffs' proposed findings of fact on the antitrust issues Nos. 16.1 to 16.12 inclusive.

It is well settled that the fact that a parent corporation owns all of the corporate stock of its subsidiary does not destroy the identity of the latter as a distinct legal entity. However, where one corporation is so organized and controlled and its business is conducted in such manner as to make it merely an agency, instrumentality, adjunct or alter ego of another corporation the separate corporate existence of the parent and subsidiary may not be recog-

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nized. 18 Am. Jur., Corporations, § 17; Annot., "Liability of Corporation for Torts of Subsidiary", 7 A.L.R.3d 1343. In determining whether there has been such domination of the finances, policy and practices of the subsidiary that it has no separate mind, will or existence of its own but is simply a business conduit for the parent corporation various factors may be considered among which are the following:

1. Common stock ownership.
2. Common directors or officers.
3. Financing of the subsidiary by the parent.
4. Incorporation of the subsidiary by the parent.
5. Gross inadequacy of capital for the subsidiary.
6. Payment by the parent of the salaries and other expenses or losses of the subsidiary.
7. The subsidiary has substantially no business except with the parent and no assets except those conveyed to it by the parent.
8. The parent uses the subsidiary's property as its own.
9. The executives of the subsidiary do not act independently but take their orders from the parent corporation in the latter's interest.

Bay Sound Transportation Company v. United States, 350 F.Supp. 420, 426 (S.D.Tex.1972), *aff'd*, 474 F.2d 1397 (5th Cir. 1973).

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Most, if not all, of these factors are present here, and the conclusion is that DMRC was so dominated by DMI through its president and chief executive officer, Roger Milliken, in the conduct of its business that it must be held to have been merely an agency and instrumentality of its parent corporation in the transactions which led to the settlement of the Leeson litigation. Accordingly, liability for the resulting antitrust violations found to have been involved in the settlement must attach to DMI.²¹

C. Liability of ARCT-France and ARCT, Inc.

Plaintiffs' efforts to impose liability on ARCT-France and ARCT, Inc. have been directed primarily toward associating these two defendants with the alleged vertical antitrust conspiracy, now rejected by the court as a basis for liability, but as a signatory to the Leeson settlement ARCT-France is also charged with liability as a member of the conspiracy engendered by that agreement. ARCT, Inc. which did not come into existence until almost two years after the settlement is sought to be charged as a late joiner of the conspiracy. The [690] court has concluded that these charges are not substantiated by a preponderance of the evidence as to either defendant.

In reaching this conclusion the court has considered carefully the relationships between the alleged conspirators and the marked differences between their interests. Nor-

²¹ Plaintiffs also advance the argument that DMI by its own actions "facilitated the combination among defendants and their combination with Leeson" and should therefore be liable for its own participation in the settlement. The conclusion that DMRC's actions are imputable to DMI under traditional agency principles makes it unnecessary to consider this somewhat novel theory of liability.

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mally the participants in an antitrust violation derive their benefits from the same source. Price fixers, for instance, profit from non-competition in pricing. Following the settlement here, however, the sole source of profit for Whitin and ARCT, Inc. continued to be the sale of false twist machinery in open competition with their alleged co-conspirator, Leeson, while Chavanoz and DMRC continued to profit from their production royalty program, freed by the settlement agreement of any threat from Leeson. Likewise the conspiracy of Leeson, DMRC and Chavanoz to monopolize the false twist machinery market did not inure to the benefit of ARCT-France, Whitin or ARCT, Inc. It may in fact have resulted in some competitive disadvantage for them, for as new entrants in the market came on the scene they invariably came under Leeson's licensing program for manufacturers and thereby qualified to participate in Leeson's production royalty program to the extent of one-third of the royalties collected, a windfall never enjoyed by Whitin, ARCT-France or ARCT, Inc.

Given this divergence between the interests of the ARCT defendants and their alleged co-conspirators, it is not surprising that the relationship between ARCT-France and DMRC was fraught with some friction and antagonism almost from the beginning. As early as March, 1961, we find Crouzet writing to Soep.

"I have told you several times that the presence of DMRC in the arrangements entered into in the United States constitutes a hinderance to us." (PX 1306)

A few months later Waters on his return from a visit to Europe reported to his superiors that Crouzet was "willing

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to reimburse DMRC now for out of pocket expenses if DMRC will allow the agreement to be cancelled at this time."

The relationship between DMRC and Waters and his employers continued to deteriorate, culminating at last in a letter by Armitage to Soep shortly after the formation of ARCT, Inc. in February, 1966, in which he disparaged Waters and questioned the wisdom of the formation of this new company to distribute the ARCT machines in the United States.

When the fact that ARCT and Whitin were to enjoy none of the fruits of the conspiracy (that is, participation in production royalties or freedom from competition in machine sales) is considered in the light of the strained relationship which existed between them and DMRC, the court regards it as highly unlikely that these two companies would have knowingly entered into a conspiracy with DMRC, Chavanoz and Leeson to violate the antitrust laws. It is even more unlikely that Waters would have knowingly permitted his new company, ARCT, Inc., to join in the conspiracy when it was incorporated two years later.²² On the contrary the court is persuaded that in entering into the settlement Whitin and ARCT-France were motivated solely by their desire to sell machines in the United States free from the prospect that their customers might later be faced

²² Waters was in charge of the false twist machinery sales for Whitin but was not a part of management, and although he attended two meetings at which unproductive settlement negotiation discussions occurred, there is no evidence that he had any part in the final negotiations which resulted in settlement or that he understood the anti-competitive import of the agreements finally reached. Thus it cannot be said that he brought with him to ARCT, Inc. any guilty knowledge of the conspiracy. See *United States v. Wilshire Oil Company*, 427 F.2d 969 (10th Cir. 1970).

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with the necessity of paying production royalties both to Leeson and DMRC.

The fact that ARCT-France was actually a party to the Leeson settlement agreements is regarded as having little probative force. It was not a party to the United States litigation but was, of course, involved in litigation in France which the settlement encompassed. It was represented [691] here by Leo Soep, the ubiquitous "conseil en brevets", who signed the agreement for ARCT-France as attorney-in-fact. Soep also signed for Chavanoz for whom he had been the chief negotiator. There is no evidence that Henri Crouzet, ARCT-France's president and chief executive officer, had any part in the negotiations. His limited skill in English makes it unlikely that he had sufficient understanding of the proceedings in the United States to form any intent concerning a conspiracy.

Moreover, Soep's guilty knowledge and intent, if any, were not necessarily imputable to ARCT-France, for his primary allegiance for years had been to Chavanoz and in this instance he was in a conflict of interest situation. Chavanoz's sole interest in the settlement was to preserve the production royalty program. On the other hand, ARCT-France's sole interest was in selling machines, an endeavor for which the DMRC-Chavanoz licensing program posed a constant impediment.

The conclusion is that the requisite intent to violate the antitrust laws on the part of ARCT-France in entering into the Leeson settlement agreement and its actions subsequent thereto have not been made to appear by a preponderance of the evidence. *United States v. Singer Manufacturing Company*, 374 U.S. 174, 83 S.Ct. 1773, 10 L.Ed.2d 823 (1963); *The Duplan Corporation, et al. v. Deering Milliken, Incorporated, et al.*, 540 F.2d 1215 (4th Cir. 1976).

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Similarly proof is lacking that ARCT, Inc. knew of the existence of the conspiracy and consciously committed itself to the common scheme with intent to pursue its objectives. *Industrial Building Materials, Inc. v. Interchemical Corporation*, 437 F.2d 1336 (9th Cir. 1970); *United States v. Standard Oil Company*, 316 F.2d 884 (7th Cir. 1963); *Jones v. United States*, 251 F.2d 288 (10th Cir. 1958). As to each of these defendants' evidence is lacking that there was a common purpose and uniformity of conduct between them and their co-defendants. *Theatre Enterprises, Inc. v. Paramount Film Distributing Corporation*, 201 F.2d 306 (4th Cir. 1953), *aff'd*, 346 U.S. 537, 74 S.Ct. 257, 98 L.Ed. 273 (1954). It follows that ARCT-France and ARCT, Inc. are not liable to the plaintiffs as participants in the horizontal conspiracy.

III. Statute of Limitations.

As an affirmative defense to the antitrust charges growing out of the Leeson settlement DMRC, Chavanoz and DMI have pleaded the bar of the four-year statute of limitations provided for in Section 4B of the Clayton Act, 15 U.S.C. § 15b, which reads as follows:

"Any action to enforce any cause of action under sections 15, 15a, or 15c of this title shall be forever barred unless commenced within four years after the cause of action accrued."

Defendants contend that the settlement of March 31, 1964 received wide press coverage at the time and was well known throughout the industry. Also well known was the fact that DMRC had obtained the opinion of counsel prior to the settlement that Leeson's false twist patents should be invalidated. In these circumstances, defendants argue,

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any cause of action based upon the settlement (which was actually consummated sometime in April of 1964) was barred after April, 1968. Since the earliest pleading here involved which asserted a claim regarding the 1964 settlement was Duplan's complaint filed in November of 1969, defendants assert that that action and all others which were filed later making the same claim are barred by the four-year statute of limitations.

Plaintiffs on the other hand contend that defendants committed overt acts in pursuance of the conspiracy growing out of the Leeson settlement which continued down through the date of the filing of the Duplan suit including the continued unlawful collection of royalties and that a new cause of action accrued upon the commission of each such overt act. Plaintiffs argue, therefore, that they are entitled to recover all damages attributable to these unlawful acts which occurred during the four years prior to the institution of suit.

[692] While the defendants' position is not without some supporting authority,²³ decision here must be in conformity with the principle stated by the Supreme Court in *Zenith Radio Corporation v. Hazeltine Research, Inc.*, 401 U.S. 321, 338, 91 S.Ct. 795, 806, 28 L.Ed.2d 77 (1971):

"The basic rule is that damages are recoverable under the federal antitrust acts only if suit therefor

²³ The cases are collected in an annotation in 62 A.L.R.2d 1369, where the annotator makes this interesting observation:

"The cases involving the running of limitations against so-called civil actions for conspiracy present a melange of inconsistent, irreconcilable, even contradictory statements of general 'rules' relating to the subject. This is, perhaps, not surprising in view of the vague, poorly defined scope of this kind of civil suit." *Id.* at 1385.

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is 'commenced within four years after the cause of action accrued,' 15 U.S.C. § 15b, plus any additional number of years during which the statute of limitations was tolled. Generally, a cause of action accrues and the statute begins to run when a defendant commits an act that injures a plaintiff's business. (Citing cases.) This much is plain from the treble-damage statute itself. 15 U.S.C. § 15."

The Supreme Court had applied this general rule three years earlier in *Hanover Shoe, Inc. v. United Shoe Machinery Corporation*, 392 U.S. 481, 88 S.Ct. 2224, 20 L.Ed.2d 1231 (1968). In that case a shoe manufacturer sued the manufacturer of shoe machinery in 1955 alleging a violation of Section 2 of the Sherman Act dating back to 1912 when defendant instituted its policy of leasing rather than selling its shoe machinery to the plaintiff and other shoe manufacturers. In the Supreme Court the defendant argued that because the earliest impact of its lease only policy occurred in 1912 the plaintiff's cause of action arose during that year and was therefore barred by the applicable statute of limitations. In rejecting this argument the Supreme Court said:

"We are not dealing with a violation which, if it occurs at all, must occur within some specific and limited time span. . . . Rather, we are dealing with conduct which constituted a continuing violation of the Sherman Act and which inflicted continuing and accumulating harm on Hanover. Although Hanover could have sued in 1912 for the injury then being inflicted, it was equally entitled to sue in 1955." *Id.*, Footnote 15, 392 U.S. at 502, 88 S.Ct. at 2236.

These principles have been consistently followed in this circuit, *Charlotte Telecasters, Inc. v. Jefferson-Pilot*, 546

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F.2d 570 (4th Cir. 1976); *Blackwelder v. Millman*, 522 F.2d 766 (4th Cir. 1975); *Railing v. United Mine Workers*, 445 F.2d 353 (4th Cir. 1971), and in other circuits, *Twin City Sportservice, Inc. v. Charles O. Finley & Company*, 512 F.2d 1264 (9th Cir. 1975); *Baker v. F & F Investment*, 420 F.2d 1191 (7th Cir. 1970). In a decision rendered since the trial of the case at bar the Fifth Circuit on facts quite similar to those involved here has held that an antitrust cause of action continues to accrue so long as a defendant continues to accept benefits under or assert the validity of a contract entered into in violation of the antitrust laws. *Imperial Point Colonnades Condominium v. Mangurian*, 549 F.2d 1029 (5th Cir. 1977).^{23A} District courts have reached the same result. *Schokbeton Products Corporation v. Exposaic Industries, Inc.*, 308 F.Supp. 1366 (N.D.Ga.1969).

In this case DMRC/Chavanoz and Leeson continued to maintain their respective licensing programs and to collect fixed production royalties from the plaintiffs up to and after the filing by plaintiffs of their antitrust actions herein, and these and other overt acts committed by the defendants within the four-year period preceding the institution of the actions created new causes of action in favor of the plaintiffs which are not time-barred.

Additionally, defendants' plea of the statute of limitations must be rejected on the theory most recently recognized in this circuit in *Charlotte Telecasters, supra*, [693] that a cause of action does not accrue for purposes of the four-year statute of limitations as to future damages which are speculative and essentially unprovable. Because of the uncertainties in the false twist yarn industry in

^{23A} Followed in *Spitz v. Buchwald*, 551 F.2d 1051 (5th Cir., decided May 9, 1977).

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1964 and 1965 and the enormous growth and change in character of false twist yarn consumption which occurred within the four years next preceding the filing of these suits it would have been impossible for the plaintiffs to prove with any reasonable degree of accuracy their future damages had these actions been instituted within four years from the 1964 settlement.

The defendants' plea of the statute of limitations is rejected with respect to all damages which plaintiffs may show have been sustained within four years preceding their suits resulting solely from acts of the defendants committed during the four-year period.

II.

THE PATENT MISUSE ISSUES

In this section of the memorandum it will be assumed that no antitrust violations have been shown and that the Chavanoz patents remaining in the suit are valid.²⁴ The question for decision is whether the DMRC licensing program as implemented through the use of its standard licensing agreement violated the doctrine of misuse of patents.²⁵

²⁴ In view of the inordinate amount of time required to try and decide these complex cases the court has deemed it appropriate to decide all the issues involved in the trial notwithstanding the previous finding of antitrust liability on the part of DMRC, DMI and Chavanoz might well be regarded as mooted the patent misuse, validity and infringement issues. In this way it is hoped that decision on appeal may be final as to all liability issues.

²⁵ For a critical analysis of the misuse doctrine see Nicolson, "Misuse of the Misuse Doctrine in Infringement Suits", 9 UCLA Law Review 76 (1962). See also Wallace, "Proper Use of Misuse Doctrine", 26 Mercer Law Review 813 (1975), where it is said:

"The frequent jest that the massive financial and time burdens of complex patent litigation result in everybody's loss except the lawyer's may not be far from the truth."

The Licensing Agreement

The essential provisions of the standard DMRC licensing agreement are set forth on pages 14-17 *supra*. Briefly it purports to grant to the licensee a non-exclusive and non-transferrable right to use the "FT Processes" and "FT Machines". "FT Processes" are defined in the preamble as "technical information relating to processes for the manufacture of crimped synthetic yarns based upon the application of a false twist." "FT Machines" are defined as "certain inventions and technical information relating to . . . devices for the manufacture of crimped synthetic yarns based upon the application of a false twist." The "inventions" were said to be described in United States patents and patent applications and to be listed in Appendix A attached to the license. In practice this Appendix A was rarely, if ever, attached. As previously noted, just what the term "technical information" encompassed is not made clear by the licensing agreement (see Footnote 8, page 673, *supra*).²⁶

In the spring and summer of 1961 one of the Throwsters through its attorney, one Charles A. McClure of Philadelphia, engaged in an extended exchange of correspondence with Armitage of DMRC (PX 215 and PX 410) in an effort to obtain more definite information as to what the license covered and how the royalty payment related to the various items in the patent package including "technical information". In his letter of April 17, 1961, McClure wrote:

²⁶ Paragraph 2 of the agreement recites that "DMRC has already furnished to licensee certain technical information relative to the present inventions which licensee acknowledges", but there is no evidence that DMRC actually furnished its licensees with anything except the license form to be signed and returned. The licensee was entitled, however, to send its engineers or other personnel "to DMRC or its designee" for the purpose of obtaining instructions in the practice of the inventions.

[694] "[I]t appears to be the intention to collect royalties regardless of whether the conversion [of crimped yarn] involves practice of an invention covered by a licensed patent or patent application. In my opinion, the running royalty should be based only upon the latter, especially in view of the provision for a minimum annual royalty, which itself should be ample recompense for whatever unpatentable technical information might be received by my client from your company."

In his reply dated April 22, 1961, Armitage said he could not agree. On the contrary, he continued,

"The machine itself contains structural and functional elements, some of which are subject of patents and patent applications and some of which are included in the technical information which is made available to the purchaser of the machine, and this also applies to the process under which the licensee is licensed. As far as the machine is concerned, ARCT, the licensed manufacturer, is not permitted to make available such embodiments of the technical information except to licensees for their use. For this reason the use licensee may well consider that the cost to him of a machine with this right to use it is the original purchase price plus the continuing royalty. Your suggestion that the minimum annual royalty would be ample recompense for technical information is not a realistic one, because this would amount to only \$5,000 total for the minimum period of five years. This is not a minimum for each machine but for all the machines which the licensee buys, and it would not begin to pay what it has already cost us to develop only the information upon the effect of variables in machine settings upon yarn properties which we have had to carry out for the American

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yarns which our licensees will be using. As a matter of fact, you will realize from our own correspondence that just the cost of negotiating this agreement will absorb a generous fraction of the minimum!"

The royalty rate, at first two and one-half per cent and later three and one-half per cent "of the manufacturer's list price of the raw yarn . . . which is converted to crimped yarn by licensee according to the FT process or FT machines", remained constant regardless of the nonapplicability of some of the Chavanoz patents in the package to the machines. DMRC knew, or should have known from the beginning of the licensing program that many of the patents included in the package were not applicable to any ARCT machine.²⁷

The original license form contained a grant-back clause requiring purchasers of ARCT machines to grant any new patents and improvements which they might acquire to DMRC or its designee. This provision was eliminated in 1961, but the grant-back provision in the Chavanoz-ARCT-France agreements have remained in effect.

The DMRC license agreement gave the licensee the right to terminate the license after five years upon sixty days' written notice and on this further condition:

²⁷ In a letter to Waters of Whittin dated June 6, 1963, DMRC's patent counsel, Walter E. Mueller, indicated that of the eight United States patents issued to Chavanoz prior to that time only two, Nos. 2,891,375 and 2,944,319, were applicable to ARCT commercial machines. The two patents which were applicable did not issue until after the first ARCT machines had been sold and licensed in this country. Of the twenty-two patents eventually included in the standard DMRC royalty agreement and asserted against the plaintiffs in this action, two of the patents, Nos. 3,137,119 and 3,382,656, have been held invalid by Judge Hemphill and twelve others, Nos. 2,741,893; 2,761,272; 2,780,047; 2,788,634; 2,823,513; 2,823,514; 3,117,861; 3,117,410; 3,166,881; 3,237,392; 3,333,409; and 3,473,313, have been held by him not to have been infringed by the plaintiffs.

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"In the event of termination or cancellation of this agreement by operation of paragraphs 10, 11 or 12 hereof, licensee agrees to cease using the FT process and FT machines for the manufacture of crimped yarn according to inventions which are the subject of the present agreement . . ."

As illustrated in the exchange of correspondence with McClure, DMRC consistently [695] took the position that the principal provisions of the license agreement were non-negotiable, and when pressed for explanations or changes it invariably pointed to its agreement with Chavanoz as controlling and limiting its freedom to negotiate. The result was that a Throwster who wanted an ARCT machine took the license in the form tendered him or he did not get the machine.

In addition to the foregoing findings of fact with respect to patent misuse the court adopts as its own the following proposed findings of fact submitted by the parties:

1. Plaintiffs' proposed findings on the antitrust and patent misuse issues Nos. 14.64, 14.66-69 inclusive, 14.72, 14.76, 14.77, the first paragraph only of 14.78, 14.80-14.82 inclusive, 14.84 except for the last clause in the second paragraph, 14.86-14.89 inclusive, 14.98 except for the last five lines, 14.99, 14.103 except for the parenthetical statement in the first paragraph, 14.108, 14.109 and 14.112.

2. Defendants' proposed findings on the antitrust and patent misuse issues, Section I, Nos. 125-142 inclusive, 152-155 inclusive and the first two sentences of 156.

Contentions of the Parties

On the foregoing facts plaintiffs contend that in addition to their proof of antitrust violations by the defendants,²⁸ the defendants have been guilty of various other acts of patent misuse including:

1. Compulsory package licensing of patents many of which were known not to be applicable to the ARCT machines.
2. Tying unpatented "technical information" and non-applicable patents to other patents.²⁹
3. The collection of royalties at a level rate regardless of applicability of patents to the machines and without regard to the expiration of patents.
4. The enforcement by Chavanoz of the grant-back provisions in its contract with ARCT-France.
5. The alleged requirement that plaintiffs had to cease using the machines upon termination of the license agreement.

²⁸ While patent misuse is not necessarily a Sherman Act violation, *Zenith Radio Corporation v. Hazeltine Research, Inc.*, 395 U.S. 100, 89 S.Ct. 1562, 23 L.Ed.2d 129 (1969), a per se violation of the Sherman Act constitutes patent misuse, *Ansul Company v. Uniroyal, Inc.*, 448 F.2d 872 (2nd Cir. 1971), cert. denied, 404 U.S. 1018, 92 S.Ct. 680, 30 L.Ed.2d 666 (1972); *Hensley Equipment Company v. Esco Corporation*, 383 F.2d 252 (5th Cir. 1967). See *Baker-Cammack Hosiery Mills v. Davis Company*, 181 F.2d 550 (4th Cir. 1950).

²⁹ See pages 673-675, *supra*, for discussion of plaintiffs' tying arrangement charges in the antitrust context.

6. The alleged requirement that royalties continue after all patents have expired.
7. The assertion by defendants in these actions of patents known to be invalid or not infringed.
8. The alleged deceptive practices of the defendants before the United States Patent Office.

The defendants on the other hand deny any misuse of the Chavanoz patents and at the same time invoke the purge doctrine in bar of any misuse charge that might be established. Defendants further contend that the Chavanoz patents were "blocking" or "complementary" patents which constituted a "single product" thus negating the plaintiffs' claims of unlawful package licensing. Finally, defendants contend that if plaintiffs were not satisfied with the licensing arrangement tendered them it was their duty to ask for something else; that they never did so; and that they should not now be heard to complain of an arrangement which defendants claim "made them millionaires."

Conclusions on the Misuse Issue

The court is of opinion that there is merit to some, but not all, of plaintiffs' contentions, and that when the totality of defendants' conduct in respect of their licensing program is considered they are seen to have engaged in deceptive business practices which add up to misuse of the patents which has not been purged. Defendants' [696] actions for patent infringement must therefore fail. *Compton v. Metal Products, Inc.*, 453 F.2d 38 (4th Cir. 1971); cert. denied, 406 U.S. 968, 92 S.Ct. 2414, 32 L.Ed.2d 667 (1972).

Patent misuse is based on the principle that a party seeking to enforce a patent who comes to court with "un-

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clean hands" or who is guilty of "inequitable conduct" should not be afforded relief. It occurs when there is an attempt to extend the patent beyond the scope of its claims. *Morton Salt Company v. G. S. Suppiger Company*, 314 U.S. 488, 62 S.Ct. 402, 86 L.Ed. 363 (1942). The manner in which the monopoly of the patent is sought to be extended is not material.

"In construing and applying the patent law so as to give effect to the public policy which limits the granted monopoly strictly to the terms of the statutory grant . . . the particular form or method by which the monopoly is sought to be extended is immaterial." *United States v. Univis Lens Company*, 316 U.S. 241, 251-2, 62 S.Ct. 1088, 1094, 86 L.Ed. 1408 (1942).

The mere inclusion of two or more patents in a single license agreement does not of itself constitute patent misuse where the parties mutually agree that a group of patents are to form the subject matter of the license agreement. Such voluntary package licensing offends neither the patent nor the antitrust laws. *United States v. Paramount Pictures*, 334 U.S. 131, 68 S.Ct. 915, 92 L.Ed. 1260 (1948). Where the patent owner refuses to grant a license under less than all of his patents, however, or requires the licensee to accept a license under unwanted or inapplicable patents in order to obtain the use of desired patents, the practice is condemned under the patent laws as mandatory or coercive package licensing. *American Securit Company v. Shatterproof Glass Corporation*, 268 F.2d 769 (3rd Cir. 1959), *cert. denied*, 361 U.S. 902, 80 S.Ct. 210, 4 L.Ed2d 157 (1959).

The court has concluded that DMRC's license plan falls in this latter category. In order to obtain the ARCT ma-

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chines the plaintiffs were obliged to take the DMRC standard license agreement in the form offered and pay the level royalty rate charged, and as graphically illustrated in the negotiations between Attorney McClure and Armitage, it was futile for a machine purchaser to undertake to obtain any substantial variance in the terms of the agreement.³⁰ Others who undertook to obtain more favorable terms met with the same results.³¹

"The policy of plaintiff to grant no license unless it is under all its patents for a fixed royalty, is one of unlawful coercion contrary to public policy as announced by the courts. And, it cannot be said by plaintiff in answer that its practice of group or package-licensing was designed merely to suit its business convenience. Convenience to the patent owner can never justify an unlawful use of the patent monopoly. In this field, a reward granted to an inventor is important, only insofar as it serves to release to the public the product of his genius. That service ceases to be rendered when the reward

³⁰ In his letter to McClure of May 23, 1961, Armitage said:

"This agreement which we have submitted is a standard license form. It is the only form of license which we are authorized to offer under our basic agreement with Chavanoz. It covers the inventions under all issued patents and pending patent applications . . ." (PX 215).

³¹ In answer to a letter dated September 13, 1963, from George Simmons of the patent department of Rohm & Haas Company in which he sought to have pending patent applications excluded from the license DMRC wrote:

"[W]e are not in a position to permit you to exclude the pending patent applications from the license. Our basic agreement with Chavanoz requires that the sub-licenses granted by us embrace the scope of the license which we ourselves have from Chavanoz, and we are therefore compelled by our agreement with them to license under existing patents and existing patent applications." (PX 217).

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no longer can be found to relate to the quality of each patent. In such event one patent cannot draw strength from the others and the monopoly of each thus be extended.

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[697] "I thus find no significant difference between, on the one hand, conditioning the granting of a license under one patent upon the acceptance of another for an additional consideration, a practice the Supreme Court has condemned, and, on the other, as here, granting a license only under all patents at a fixed rate, or under any one patent at the same rate, which is, in effect, equivalent to apportioning the fixed rate amongst all the patents and then requiring the applicant to take a license under all if he wishes to have a license under one. In either case plaintiff's policy is inexorable." *American Securit Company v. Shatterproof Glass Corporation*, 154 F.Supp. 890, 895 (D.Del. 1957), aff'd, 268 F.2d 769 (3rd Cir. 1959), cert. denied, 361 U.S. 902, 80 S.Ct. 210, 4 L.Ed.2d 157 (1959). (Noted in 44 U.Va. L.R. 727.)

The court is also of opinion that the tying of the unpatented technical information to the patent package was an act of patent misuse. In his correspondence with McClure Armitage made it clear that a substantial portion of the royalty payment was attributable to this nebulous item. Included in the package also were process patents which were capable of being practiced on machines of other manufacturers as well as those made by ARCT. At the same time the ARCT machines could be and were operated extensively without infringing the defendants' process patents. The requirements that these patents be included in the package was also an unlawful tie.

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"The patent monopoly of one invention may no more be enlarged for the exploitation of a monopoly of another . . . than for the exploitation of an unpatented article . . . or for the exploitation or promotion of a business not embraced within the patent." *Ethyl Gasoline Corporation v. United States*, 309 U.S. 436, 459, 60 S.Ct. 618, 626, 84 L.Ed. 852 (1940).

As previously noted, the Chavanoz patents were available to the plaintiffs only on an all or none basis. Although made in the context of an antitrust case, the following statement from *Advance Business Systems & Supply Company v. SCM Corporation*, 415 F.2d 55 (4th Cir. 1969), is equally applicable here:

"Tie-ins are non-coercive, and therefore legal, only if the components are separately available to the customer on a basis as favorable as the tie-in arrangement." *Id.* at p. 62.

Furthermore, the misuse of a patent does not depend on a showing that the improper tying provision of the license may have a substantial effect on competition as is required to establish liability under Section 3 of the Clayton Act, 15 U.S.C. § 14. As a matter of patent law the inclusion of tying provisions in a mandatory package patent license constitutes a misuse of patents absent some showing justifying the practice such as business convenience or necessity. *Automatic Radio Manufacturing Company v. Hazeltine Research, Inc.*, 339 U.S. 827, 70 S.Ct. 894, 94 L.Ed. 1312 (1950); *Dehydrating Process Company v. A. O. Smith Corporation*, 292 F.2d 653 (1st Cir. 1961). See *Standard Oil Company v. United States*, 283 U.S. 163, 51 S.Ct. 421, 75 L.Ed. 926 (1931). Even then, when the business necessity terminates, the licensee's rights are re-activated. *United*

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States v. Jerrold Electronics Corporation, 187 F.Supp. 545 (E.D.Pa.1960), *aff'd per curiam*, 365 U.S. 567, 81 S.Ct. 755, 5 L.Ed.2d 806 (1961). And a patentee who sells a patented item only in conjunction with some other item "raises serious suspicions of tying behavior and misuse" and "bear[s] a heavy burden in overcoming this suspicion and in bringing [himself] within one of the [recognized] justifications." *Rex Chainbelt, Inc. v. Harco Products, Inc.*, 512 F.2d 993, 1002-3 (9th Cir. 1975). See further, Frost, "Tying Clauses and Package Licensing", 28 U.Pittsburgh L.R. 207 (1966).

In addition to constituting coercion to accept unlawful tying arrangements incorporated in package licenses, *American Securit Company v. Shatterproof Glass Corporation*, 154 F.Supp. 890 (D.Del.1957), the requirement that the royalty rate remain at a constant level also raises the question of [698] the legality of collecting royalties attributable to patents which expire while the license agreement is in effect. In *Brulotte v. Thys Company*, 379 U.S. 29, 85 S.Ct. 176, 13 L.Ed.2d 99 (1964), the Supreme Court struck down a patentee's attempt to collect royalties after all the patents in the package had expired but left open the question of whether the continued collection of the level royalty after the expiration of only part of the patents would constitute patent misuse. 379 U.S. at p. 32, Footnote 5, 85 S.Ct. 176.

On this question the circuits are not in harmony. The Sixth Circuit in *Rocform Corporation v. Acitelli-Standard Concrete Wall, Inc.*, 367 F.2d 678 (6th Cir. 1966), found that the level royalty charged for the use of a number of patents constituted an unlawful effort to collect royalties on an expired patent. The Tenth Circuit, adhering to its decision in an earlier case, declined to follow this in *Well*

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Surveys, Inc. v. Perfo-Log, Inc., 396 F.2d 15, 18 (10th Cir. 1968).³²

The DMRC license provided that it should continue "for a period until expiration of the last patent to issue in the United States", and this court finds itself in agreement with the Third Circuit in *American Securit Company v. Shatterproof Glass Corporation*, 268 F.2d 769 (3rd Cir. 1959), *cert. denied*, 361 U.S. 902, 80 S.Ct. 210, 4 L.Ed.2d 157 (1959), when it said:

"We conclude also, and quite apart from all of the foregoing, that paragraph 8(a) of Securit's standard licensing agreement which provides that that agreement shall continue 'in full force and effect to the expiration of the last to expire of any' of Securit's patents set out in 'Schedule A' constitutes a patent misuse for it extends the payment of royalties of patents under patents which may expire to the expiration date of that patent most recently granted to Securit." 268 F.2d at p. 777.

This is but a logical extension of the rule thereafter adopted by the Supreme Court in *Brulotte*.

"But the theory of the [*Brulotte*] case, standing as it does for the proposition that extending payments beyond the expiration of a patent is a means of

³² The earlier Tenth Circuit case, *McCullough Tool Company v. Well Surveys, Inc.*, 343 F.2d 381 (10th Cir. 1965), appears in fact to be distinguishable. The lower court in that case had found that the license agreements were not coerced but that the licensees had been offered licenses under individual patents on negotiated terms.

On the subject of post-expiration royalties see "The Misuse Doctrine and Post-Expiration-Discriminatory and Exorbitant Patent Royalties", 43 Ind.L.J. 106 (1967-68), and "Proper Use of the Patent Misuse Doctrine", 26 Mercer L.R. 813 (1975).

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converting a seventeen-year monopoly into a longer one (time leverage), seems logically extendable to the proposition that a similar time extension is involved if the payment is not proportionately reduced when one of several patents expires. To take an extreme example, if Brulotte, rather than waiting until all the patents embodied in the hop-picking machine had expired completely to discontinue his payments, had reduced his payments by one-seventh when the first of the seven patents had expired, why would this not also be permissible by application of the theory of the case? Bowman, "Patent and Antitrust Law", p. 234 (1975).

In the case at bar the expiration of the first applicable Chavanoz patent did not occur until June, 1976, after the trial of the case was already underway. The court has no doubt, however, that had it expired during the time the plaintiffs were still paying royalties and had they undertaken to adjust the royalty rate proportionately, DMRC would have reacted promptly and firmly.³³

³³ Armitage testified at Tr. 20, p. 4070, that:

"[The plaintiffs] paid the same royalty regardless of whether a particular patent covered a feature of his machine as long as any patent or patent application or invention upon which it was expected to get patent coverage was embodied in that machine, and he paid no more for nine features than he did for one."

And again at Tr. 21, p. 4411-12 he testified:

"Q: . . . Is it contemplated that upon the expiration of that patent the royalty rate would be reduced?"

"A: It wasn't contemplated by me."

"Q: Now, Dr. Armitage, Mr. Mueller said that that patent [U.S. Patent No. 2,780,047] was not used on any of the ARCT machines. Did you and Mr. Soep discuss or consider the reduction in royalties of the patent if the patent wasn't used?"

"A: No, never . . . Certainly it never crossed my mind that there should be a difference."

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[699] The defendants argue, however, that each of the patents actually employed on the ARCT machines was worth the full amount of the royalty charged and that the inclusion of additional patents without additional charge harmed no one.³⁴ A similar argument was answered most effectively by Judge Dorsey Watkins in *Technograph Printed Circuit, Ltd. v. Bendix Aviation Corporation*, 218 F.Supp 1 (D.Md.1963), *aff'd per curiam on other grounds*, 327 F.2d 497 (4th Cir. 1964),^{34A} when he said:

"Plaintiffs contend that the royalty rate in fact charged for the use of a single patent is fair and reasonable, and that to permit a licensee to select as many additional ones as he wishes, at the price of one, cannot be coercive. If it were true that the royalty for the use of a single patent were fair and reasonable, there would be great strength to plaintiffs' argument that the owner of multiple patents need not license each of them at less than a fair and reasonable rate, in order not to be charged with misuse."

"The evidence in the case does not satisfactorily establish whether or not the royalty charged would be reasonable for a single patent. . . . Moreover, the willingness to throw in any number of patents for the same rate (the only consideration apparently being the estoppel of a licensee to contest the validity of a patent under which he is licensed) is suspect."

³⁴ DMRC's vice president and patent counsel testified that the royalty rate proposed to be charged a new licensee in August, 1976, "in our view was a satisfactory rate for any one of the patents" (Tr. 83, p. 16037), but the court can hardly accept that as evidence that any one of the patents was in fact worth the full amount of the royalty charged or that DMRC so regarded it in earlier years when the plaintiffs here entered into their agreements with DMRC.

^{34A} *Cert. denied*, 379 U.S. 826, 85 S.Ct. 53, 13 L.Ed.2d 36 (1964).

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Altruism is a virtue not usually ascribed to licensors." *Id.* 49.

The court has the unmistakable impression that the package license plan employed by defendants was designed to require payment of royalties by the plaintiffs on patents not used on the machines they purchased and to shield from attack under the law as it then existed many weak and unwanted patents. This constituted patent misuse. *United States v. General Electric Company*, 82 F.Supp. 753, 859 (D.N.J. 1949).³⁵

We come now to consider the effect of the grant-back clauses in the 1954 and 1962 agreements between Chavanoz and ARCT-France as related to plaintiffs' charges of patent misuse. In a previous section concerned with plaintiffs' vertical antitrust conspiracy charges (pp. 671-672, *supra*) it was concluded that the plaintiffs were not harmed by these grant-back provisions, but in the patent misuse context it is not necessary that a patent licensee show that he has sustained damage by reason of the misuse.

"It is the adverse effect upon the public interest of a successful infringement suit, in conjunction with the patentee's course of conduct, which disqualifies him to maintain the suit, regardless of whether the particular defendant has suffered from the misuse of the patent." *Morton Salt Company v. Suppiger*,

³⁵ See further Wallace, "Proper Use of the Patent Misuse Doctrine", 26 Mercer L.R. 813 (1975); Fisher, "The Misuse Doctrine and Post Expiration Discriminatory and Exorbitant Patent Royalties", 43 Indiana L.J. 106 (1967-68); Siekman, "Post Expiration Royalty Payments and Mandatory Package Licensing as Patent Misuses", 11 Villanova L.R. 382 (1966); Frost, "Tying Clauses and Package Licensing", 28 U.Pitt.L.R. 207 (1966); and Note, "Mandatory Package Licensing: A New Patent Misuse", 44 Va.L.R. 727 (1958).

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314 U.S. 488, 494, 62 S.Ct. 402, 406, 86 L.Ed. 363 (1942).

The court has concluded that the scope of ARCT's "improvements" and inventions required to be assigned to Chavanoz [700] extended far beyond the scope of Chavanoz's basic patent (United States Patent 2,741,893, the so-called "bathtub patent") and the effect was to extend unlawfully its monopoly and thus result in patent misuse.

Prosecution of patent No. 2,741,893 in the United States Patent Office was marked by several rejections before the final allowance of three claims, central to each of which was the claim that the false twisted yarn as it passed through the machine had the twist arrested within the heating medium so that it did not run back to the supply package feed roll. Had the grant-back clauses limited the scope of the improvements required to be assigned to Chavanoz by ARCT-France to improvements in the alleged twist arresting feature, in all probability they would have satisfied the test in *Transparent-Wrap Machinery Company v. Stokes & Smith Company*, 329 U.S. 637, 67 S.Ct. 610, 91 L.Ed. 563 (1947).³⁶ The 1954 and 1962 agreements, however, were not so limited. As shown by the following provision in the 1954 agreement the breadth and scope of the technology required to be assigned to Chavanoz by ARCT-France in the false twist field was virtually unlimited:

³⁶ That there was ample room for "improvement" is perhaps best illustrated by Judge Hemphill's ruling herein on a motion for summary judgment that patent No. 2,741,893 was not infringed by any Throwster for the simple reason that the uncontradicted evidence showed that a substantial part of the twist was not in fact arrested within the heating medium. *Duplan Corporation v. Deering Milliken, Inc.*, 370 F.Supp. 769 (D.S.C.1973). This patent and its accompanying drawing illustrating the "invention" are set forth as an appendix to Judge Hemphill's decision. 370 F.Supp. 788-9.

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"4. . . . [T]he rights of industrial property are reserved exclusively for [Chavanoz] including those attached to the new models. Any application for a patent *that could concern such new models* must be made by [Chavanoz] in its name and at its expense. ARCT will take the necessary steps to inform [Chavanoz] promptly of any improvements so as to allow it to insure adequate protection of which [Chavanoz] is the sole judge." (Emphasis supplied.)

Equally broad was the provision in the 1962 agreement which required ARCT-France to assign to Chavanoz all improvements "in the field of the patents"—defined as "the field of the manufacture of crimped textile yarns, either natural, artificial or synthetic, curled through the application of a false twist which is heat set, and in the yarns which may be obtained from said crimped or curled yarns through an additional treatment or shaping."³⁷

In view of these provisions and the fact that it was ARCT-France, not Chavanoz, that was in the machinery manufacturing business it is not surprising that of the patents originally in suit here nine of the sixteen apparatus patents and three of the six process patents originated with ARCT-France and were acquired by Chavanoz by grant-back. No one of these patents was concerned with a mechanism for "arresting the twist within the heating medium."³⁸ That the scope of the monopoly granted in

³⁷ In a revision of the Chavanoz-ARCT agreement in 1971 the grant-back clause was rewritten in greater detail, but its essential provisions remained unchanged (PX 765).

³⁸ Four of the eight patents remaining in suit were ARCT inventions: Nos. 2,944,319; 3,232,037; 3,283,414; and 3,584,450. A fifth, No. 3,165,881, was the joint invention of Crouzet of ARCT and deMoncuit of Chavanoz.

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Chavanoz's own patents was thereby substantially enhanced and extended seems undeniable. This constituted patent misuse.³⁹

If it were true, as plaintiffs earnestly contend, that upon termination of the DMRC standard licensing agreement licensees were required by the terms of its paragraph 13 (p. 667, *supra*) to cease using the ARCT machines altogether, or that their obligations to pay royalties were to continue [701] notwithstanding the expiration of all patents applicable to the machines, then clearly there would be patent misuse under the rule in *Brulotte v. Thys Company*, 379 U.S. 29, 85 S.Ct. 176, 13 L.Ed.2d 99 (1964). However, the court is unable to accept plaintiffs' interpretation of the agreement. The requirement that licensees cease using the FT machines upon termination of the agreement is qualified by the clause, "according to inventions which are the subject of the present agreement." A fair interpretation of this language, it seems to the court, is the one contended for by the defendants, that is, that upon termination a licensee could no longer use a machine which contained valid, unexpired patents. Nor does a fair reading of the agreement require payment of royalties after all applicable patents on the machine have expired. Although there are isolated instances in which defendants' witnesses indicated a contrary interpretation of the agreement by DMRC, read as a whole their testimony supports the conclusion the court has reached (Tr. 20, pp. 4105 *et seq.*).

³⁹ See further Schmalbeck, "The Validity of Grant-Back Clauses in Patent Licensing Agreements", 42 U.Chicago L.R. 733 (1975); Chevigny, "The Validity of Grant-Back Agreements Under the Antitrust Laws", 34 Fordham L.R. 569 (1966); and Stedman, "Acquisition of Patents and Know-How by Grant, Fraud, Purchase and Grant-Back", 28 U.Pitt.L.R. 161 (1966).

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The plaintiffs have argued that the assertion by defendants of twenty-two patents against them in this litigation when defendants knew or should have known that some of the patents were invalid and at least twelve of them were un infringed constitutes an independent basis for finding patent misuse or at least an abuse of the patent laws. In adopting defendants' proposed findings of fact Nos. I-125 to I-134, inclusive, however, the court has in effect found that except with respect to patent No. 3,232,037 (the "'037 patent") this argument is without merit.⁴⁰ Briefly summarized, these findings show that out of an abundance of caution DMRC initially asserted the twenty-two patents by way of complaint or compulsory counterclaims at a time when no discovery had been conducted; that in most of its pleadings DMRC only alleged infringement of "some or all of the FT patents without prejudice"; that plaintiffs successfully resisted DMRC's motion for leave to drop some of the patents in the early stages of the litigation; that as discovery revealed instances of non-infringement DMRC brought the information to the court's attention; and that "[t]he course of conduct was nothing more than an

⁴⁰ The facts relating to the acquisition by Chavanoz of the '037 patent after this litigation was well underway are set forth in plaintiffs' adopted findings 14.86-14.89, inclusive. Briefly, this ARCT patent on a monoroll spindle was never regarded by Chavanoz or ARCT-France as covered by the grant-back clause in their agreement until after this litigation had been commenced, and the plaintiffs here who purchased machines embodying this invention acquired an implied right to use them free of the use right claims of Chavanoz and DMRC based on their attempted acquisition of the '037 patent rights evidenced by the actual assignment from ARCT-France to Chavanoz first recorded in the United States Patent Office on November 16, 1970. Even if the patent were valid (and the court finds later that it was not) in no event would it be enforceable against any Throwster who purchased a machine prior to the date of the assignment, November 4, 1970. This subject is discussed more fully *infra* in the section on patent validity and infringement.

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orderly and rational manner of conducting a complex, multi-party litigation."

The court is inclined to agree, and it finds no patent misuse by reason of the wrongful assertion of any patent other than the '037 patent. While an attempt to assert a known invalid patent might constitute an antitrust violation in addition to patent misuse, *Kellogg Company v. National Biscuit Company*, 71 F.2d 662 (2nd Cir. 1934), it is also true that

"Patents would be of little value if infringers of them could not be notified of the consequences of infringement or proceeded against in the courts. Such action considered by itself cannot be said to be illegal. Patent rights, it is true, may be asserted in malicious prosecutions as other rights, or asserted rights, may be. But this is not an action for malicious prosecution. It is an action under the Sherman Anti-trust Act for the violation of the provisions of that act, seeking treble damages." *Virtue v. Creamery Package Manufacturing Company*, 227 U.S. 8, 37-38, 33 S.Ct. 202, 208, 57 L.Ed. 393 (1913).

With respect to plaintiffs' claim that defendant through the use of deceptive [702] practices before the Patent Office abused the patent laws the court has adopted defendants' proposed findings of fact Nos. I-135 to I-142, inclusive. Briefly summarized, these findings, while conceding that Judge Hemphill held two of the Chavanoz patents (Nos. 3,137,119 and 3,382,656) to be invalid under 35 U.S.C. § 102 (d) because of the failure of the inventor to disclose to the Patent Office that French patents had been applied for more than a year earlier, fail to establish fraud which infect the other patents in the Chavanoz package but at the most establish only negligence or simple human error. It is well

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settled, of course, that proof of fraud must be clear and convincing and that one alleging fraud has a heavy burden of persuasion. *Krenzer v. Stoffel*, 551 F.2d 1214 (Cust. & Pat. App. 1977); *North Carolina v. Charles Pfizer & Company*, 384 F.Supp. 265 (E.D.N.C. 1974). While by no means intending to condone the activities of the defendants before the Patent Office,⁴¹ the court is of opinion that plaintiffs have failed to carry their heavy burden of establishing fraud with respect to the '119 and '656 patents. *Walker Process Equipment, Inc. v. Food Machinery and Chemical Corporation*, 382 U.S. 172, 86 S.Ct. 347, 15 L.Ed.2d 247 (1965).

⁴¹ The court finds particularly reprehensible the attitude of one patent counsel, described as a DMRC "internal patent man", as expressed in a memorandum to DMRC's patent attorney concerning a pending DMRC patent application when he said:

"ICI patent does not disclose storing a heat-set yarn on a pirn and it might well be that it would be held by the patent office or by a court that, this being a foreign reference patent, it did not suggest a yarn within the scope of the above claim. Of course, unless someone else called it to the attention of the examiner, there would be no need for him to know that the above claim would read upon a heat-set ICI yarn stored on a pirn.

* * * * *

"I think this would, however, slip past the examiner . . . [U]nless the examiner puts two and two together from reading DMRC's hot-stretch patent applications, he will not know that a claim of the above type will read upon a thermally relaxed or hot-stretched yarn passed about a cold blade member." (PX 890.)

While a patent applicant is not required to "list out the full spectrum of his knowledge to establish [his] bona fides", *Eli Lilly & Company v. Generix Drug Sales, Inc.*, 460 F.2d 1096, 1102-3 (5th Cir. 1972), one who deliberately conceals material information from the patent Office is just as culpable as one who willfully misrepresents the facts. See *Kearney & Trecker Corporation v. Giddings & Lewis, Inc.*, 452 F.2d 579, 594 (7th Cir. 1971), cert. denied, 405 U.S. 1066, 92 S.Ct. 1500, 31 L.Ed.2d 796 (1972).

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The principal defense advanced by defendants to plaintiffs' patent misuse charges is that any misuse inherent in the original DMRC licensing agreement, which defendants continue to deny, was "purged" by the offer of new licenses after this litigation was instituted.⁴² On December 23, 1970, two alternative license proposals were transmitted to the plaintiffs in which the licensee was given a choice between a license with a lump sum royalty for all licensed rights or a license with a variable rate which increased with each licensed right. On September 28, 1971, two additional license agreement proposals were transmitted to plaintiffs by DMRC (DX 687 through DX 703). The primary difference between the two sets of proposals was the abandonment in the second set of a requirement that the licensees contractually acknowledge the validity of the patents under which they were to be licensed. Each set of proposed licenses included unpatented "technical information" as well as patents.

In his letter of transmittal of the December, 1970 proposal Armitage of DMRC said:

"Enclosed are a copy of each of the two license forms for your information. It is [703] intended to have these licenses (for those who accept them) take effect as of November 1, 1969, which is before the

⁴² The right to enforce a misused patent may be reinstated when the patentee can show "that the improper practice has been abandoned and that the consequences of the misuse of the patent have been dissipated." *Morton Salt Company v. Suppiger*, 314 U.S. 488, 492-3, 62 S.Ct. 402, 405, 86 L.Ed. 363 (1942). And the patentee may take the corrective action after suit and before trial, *Baker-Cammack Hosiery Mills v. Davis Company*, 181 F.2d 550 (4th Cir. 1950); during the course of the trial, *Campbell v. Mueller*, 159 F.2d 803 (6th Cir. 1947); or in supplemental proceedings following trial, *Sylvania Industrial Corporation v. Visking Corporation*, 132 F.2d 947 (4th Cir. 1943). See further, Kins, "Dissipation of Patent Misuse" 1968 Wis.L.R. 918.

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date of the earliest litigation involving the validity and scope of the patents in suit.

"The new agreement will not, however, go into effect until 100% of royalties due prior to July 1, 1970, under the particular license which is selected are paid in full, and 50% of royalties due from July 1, 1970, until the date upon which the new license is signed are also paid. For those parties who under the agreement selected have paid higher royalties than would be due under such agreement, a refund of the excess payment back to November 1, 1969, would be made." (Armitage letter of December 23, 1970, DX 687.)

A similar condition was imposed in connection with Armitage's letter transmitting the 1971 proposal. Aside from the fact that these proposed new license agreements carried forward the tying arrangement heretofore held to taint the package and by disproportionate royalty rates continued the coercive effects of the previous licensing scheme, the requirement that plaintiffs pay back royalties failed to dissipate the effects of the prior misuse and the proposed new licenses were therefore ineffective as a purge.⁴³ It is settled law that where patent misuse has been found the patentee is entitled to no accounting for past damages. *Compton v. Metal Products Company*, 453 F.2d 38, 46 (4th Cir. 1971).

⁴³ In an effort to rebut defendants' purge defense plaintiffs also offered evidence of discussions between DMRC's patent counsel and counsel for a third party in August, 1976 (while the trial of these cases was in progress) to show that DMRC was continuing its compulsory package licensing program, but the court has the definite impression that this meeting was arranged for evidence-gathering purposes, and that statements made by DMRC's counsel at that meeting should not be used against DMRC in this case. The court notes, however, that in the three cases settled during the course of the trial the license agreements all provide for a single royalty irrespective of the number of patents used (PX 1229, 1230 and 1231; Tr. 83-16025).

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Defendants' second line of defense is grounded on the "single product" rule. Citing *Times-Picayune Publishing Company v. United States*, 345 U.S. 594, 73 S.Ct. 872, 97 L.Ed. 1277 (1953), and *International Manufacturing Company v. Landon, Inc.*, 336 F.2d 723 (9th Cir. 1964), *cert. denied sub nom., Jacuzzi Brothers, Inc. v. Landon, Inc.*, 379 U.S. 988, 85 S.Ct. 701, 13 L.Ed.2d 610 (1965), defendants argue that "no unlawful tie occurs if items are sold together as part of a single product." The difficulty with defendants' argument is that the ARCT machines themselves were not patented and the use of any one patent on the machine was not dependent upon the use of some other patented feature. Unlike the patents in *International Manufacturing* which were inherently interrelated so that the practice of one necessarily infringed another or necessarily required for its successful practice the practice of another, each of the Chavanoz apparatus patents could be practiced without the use of any other Chavanoz patent, and, of course, the practice of the process patents was not dependent upon the use of ARCT machines at all, much less the use of any particular Chavanoz apparatus patent incorporated in those machines. The defendants' "single product" defense must be rejected.

Likewise unacceptable is defendants' further contention that the plaintiffs were under an obligation to demand a license limited only to patents to be practiced and that failure to do so made the package licensing voluntary rather than mandatory and therefore not subject to the charge of patent misuse.⁴⁴ In the face of overwhelming

⁴⁴ The possibility of employing this defense was first suggested in *Automatic Radio Manufacturing Company v. Hazeltine Research, Inc.*, 176 F.2d 799, 805 (1st Cir. 1948), where the court stated:

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evidence that demands by purchasers of the ARCT machines for something less than the license package offered would have been rejected by DMRC, however, [704] a specific demand by a plaintiff Throwster was not a prerequisite to a finding of a refusal to deal except on the basis of the tendered package. See *United States v. Loews, Inc.*, 189 F. Supp. 373 (S.D.N.Y. 1960), *modified on other grounds*, 371 U.S. 38, 83 S.Ct. 97, 9, L.Ed.2d 11 (1962).

"[T]he District Judge found that [plaintiff] never attempted to negotiate with ABC after it rejected its May 4th letter order. Judge Tenney seems to suggest that [plaintiff] had a duty to approach the hierarchy of officialdom at ABC's New York office with respect to a discount on its selected lineup, and should not have been content to accept the rejection it received from the lower echelon in the network's Chicago sales office. But the law does not demand that [a plaintiff] joust with windmills; it would have been reasonable to require it to negotiate only if there was a chance of success." *American Manufacturers Mutual Insurance Company v. American Broadcasting-Paramount Theatres, Inc.*, 2 Cir., 388 F.2d 272, 284-5 (1967).

After spending the better part of a summer "jousting" with the intransigent Armitage, Attorney McClure was

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"[I]t is indeed nowhere alleged that Auotmatic had sought and been refused a license covering less than all of Hazeltine's patents. This particular contention has not been pressed on appeal as a separate ground of defense."

In affirming this decision the Supreme Court adverted to the fact that the point had not been pressed on appeal and was therefore not considered. *Id.*, 339 U.S. 827, 831, 70 S.Ct. 894, 94 L.Ed. 1312 (1950). See also 28 U.Pitt.L.R. 207 (1966), and 44 Va.L.R. 727 (1958).

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finally able to obtain some minor concession, but the patent package and level or royalty features of the DMRC license remained unchanged (PX 215 and 410). Similar efforts by other prospective licensees would doubtless have met with no success.

No discussion of the DMRC licensing program would be complete without some comment on its chief architect, Norman Armitage, and the impression that has been left with the court concerning his character and credibility. It is unfortunate that this most interesting and complex individual did not survive to testify in person at the trial, but from the mountainous volume of his deposition testimony and innumerable exhibits and the court's own questioning of witnesses who knew him intimately the picture has emerged of a highly intelligent and sophisticated lawyer and executive who could be at once charming and convincing, domineering and duplicitous, pragmatic and pertinacious.⁴⁵

⁴⁵ Although the court is unable to agree with plaintiffs that Armitage was "a man to whom the truth was an irrelevancy" (Tr. 87-16778), we have his own word for it that while he would tell "the truth and nothing but the truth," he did not always tell "the whole truth" (Tr. 21-4367). The statement had reference to a letter which Armitage wrote to a Throwster in 1965 in which he stated in effect that the judgment of the Canadian court in the Leeson-Scragg litigation (see p. 680, *supra*) had no material effect on the settlement of the Leeson-Whitin litigation in the United States, this statement being in marked contrast to Armitage's deposition testimony in 1972 in which he testified that the favorable decision obtained by Leeson in Canada played a major part in persuading DMRC and Chavanoz to settle the Leeson-Whitin litigation. The following are other examples of evidence which have influenced the court's appraisal of Armitage as a witness and as a businessman:

Although Armitage never bothered to inform himself as to which of the Chavanoz patents applied to the ARCT machines (Tr. 20-4126), he had no hesitance in warranting to Attorney McClure "that each of the patents and patent applications listed in Appendix 'A' of the agreement covers one or more features of the FT machines ordered or purchased by the licensee or its agent . . .", a representa-

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With undaunted zeal he pursued the DMRC license program as if it were the sole objective of his professional career, and the economic results achieved for his employers [705]

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tion which was grossly erroneous. (McClure's letter to Armitage of August 31, 1961—PX 410.) Nor did Armitage have any explanation as to why several patents were routinely listed in Appendix "A" referred to in the license agreements which DMRC's patent attorney, Walter E. Mueller, had stated in a letter as early as June 6, 1963 (with copy to Armitage) were not applicable to the ARCT machines (PX 97; Tr. 20-4129).

In his correspondence with McClure (PX 215 and 410) Armitage stated unequivocally that royalties were payable for the use of the machines embodying both patents and "technical information", but in his deposition testimony he stated "we have never asserted under this or any other paragraph a right to collect royalties on anything except inventions." (Tr. 20-4103.)

In his letter of April 22, 1961, to Attorney McClure (PX 215) Armitage stated that, contrary to the statement in the license agreement itself, Appendix A was normally furnished licensees only "upon request" after the license was signed. In his deposition testimony (Tr. 20-4111), in answer to a question as to whether it was his policy not to attach Appendix A, Armitage said, "No, on the contrary, the policy was to send it out. What the practice was, I don't know how many times it got sent out and how many times it got omitted. It was a sort of secretarial function. They were supposed to attach it to the agreement."

In writing to the French conseil en brevets, Leo Soep, in response to an inquiry concerning the effect of becoming involved in an antitrust violation Armitage wrote:

"... It is a fact of life here that no one imputes any dishonesty to a corporation for breaking the antitrust laws. And the business community does not attach obloquy to anyone who seeks to improve his own business situation by establishing a monopoly." (PX 435.)

When the proposal to form ARCT, Inc. to replace Whitin as the sales agent for ARCT-France in the United States was broached to Armitage by the principals of the French company he seemed genuinely pleased by the news and expressed his pleasure to Waters (Tr. 80-15557; PX 209), but only a short time later in response to a request by Leo Soep for his comment on the new sales arrangement

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attest the effectiveness of his efforts. Ironically, however, these same efforts led to charges of patent misuse and

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Armitage indicated a total lack of confidence in Waters' ability to perform adequately in competition with Whitin, stating:

"Also, as I am sure you know, while Bob Waters has done a terrific sales job over the past few years, he has also made some enemies, and Whitin will be able to capitalize, not only on Bob's errors and mistakes, but also on errors and mistakes of Whitin which they can now blame on him!" (DX 752.)

The witness, Ward Smith, now president of White Consolidated Industries, Inc., of Cleveland, Ohio, but formerly house counsel for Whitin, gave some very interesting testimony concerning Armitage:

Q: ... Since he played such a big role in the events relevant to the case, and since his death has deprived us of the opportunity to have his live testimony, the court has expressed some interest in learning something about Dr. Armitage, what kind of man he was ... And I wonder if you could describe your impression of Dr. Armitage.

A: Dr. Armitage has got to be one of the most fascinating people I ever met in my life. He was a predatory negotiator ... And unfortunately he found easy game at Whitin. On the other hand, he was courteous, he was kind, he was a gentlemen, I think in the truest sense of the word, but when you sat down across the table from Dr. Armitage you just held on to everything and prayed ... I was thoroughly impressed with this man, he was quite a guy, and he obviously, you know, did a real job on the Whitin Machine Works as far as I was concerned. I used to become enraged with him ... I don't know what it was but he mesmerized the people at Whitin Machine Works and I expect everybody else with whom he did business.

Q: ... Did you not advise the management of Whitin that Whitin should repudiate a contract made with Deering Milliken Research Corporation because it was unconscionable?

A: Yes, sir.

(Tr. 67, p. 12953-5.)

In a letter to Soep dated April 30, 1960 (PX 215) Armitage recommended issuance of a royalty-free license to a Throwster for a short experimental period explaining that this would be an innocuous way of getting the recalcitrant Throwster to sign a license and at the same time would encourage others to sign when told about this Throwster's signing "without details".

(footnote continued on following page)

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antitrust violations which spawned this Gargantuan litigation in which the court has now found the charges, at least in part, to be substantiated.

In summary, the court finds that while standing alone some phases of the conduct of the defendants do not support plaintiffs' charges of patent misuse, the mandatory package licensing program and the totality of the conduct of defendants with respect thereto support the conclusion that the Chavanoz patents were misused, that the misuse has not been purged and that none of the Chavanoz patents, even if valid, is enforceable against the plaintiffs herein.⁴⁶

[706]

III.

THE PATENT VALIDITY AND
INFRINGEMENT ISSUES

As previously indicated (Footnote 24) while the finding of antitrust liability might render unnecessary decision on the patent misuse, validity and infringement issues, the court has deemed it appropriate and in the interest of the efficient administration of justice to decide all of the issues in the case at this time. This appears to be the practice

(footnote continued from preceding page)

And finally, commenting on the "yes, yes, yes" recorded telephone conversation between Armitage and Davis of Leeson (PX 222) counsel for DMRC said during the course of the trial:

"Armitage didn't know that Davis trusted him so little that he had a secretary listening in on the conversation." (Tr. 12-2352), and

"Mr. Davis, who knew Norman Armitage from way back, was fearful that Armitage in this settlement was putting something over on him." (Tr. 88-16875.)

⁴⁶ As in the antitrust cases the court feels that in applying the misuse doctrine "plaintiffs should be given the full benefit of their proof without tightly compartmentalizing the various factual components and wiping the slate clean after scrutiny of each." *Continental Ore Company v. Union Carbide Company*, 370 U.S. 690, 699, 82 S.Ct. 1404, 1410, 8 L.Ed.2d 777 (1962).

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in other courts in similar cases. *Union Carbide Corporation v. Borg-Warner Corporation*, 430 F.Supp. 1, 2 (N.D. Ohio 1975), *aff'd*, 550 F.2d 355 (6th Cir. 1977). The court will therefore decide the patent validity and infringement issues with respect to each of the eight patents remaining in suit at the time of trial.⁴⁷ They are United States Patents Nos.:

2,891,375	3,165,881
2,944,319	3,232,037
3,012,397	3,283,414
3,123,973	3,584,450

A discussion of each of the patents follows.

Patent No. 2,891,375

Entitled "Apparatus for the Production of High-Bulk Yarn", the '375 patent was issued to Chavanoz as assignee of its two French employees, Louis VanDamme and Louis Rouyer, on June 23, 1959.⁴⁸ It is a combination patent covering the basic apparatus for processing yarn by use of the false twist method. The principal feature of the invention is a "curved tube heater" through which the moving yarn travels as it proceeds toward the false twist spindle and thence to the take-up package.⁴⁹ Pertinent portions of the specifications for this patent read as follows:

⁴⁷ A threshold question posed by the plaintiffs—that they acquired at the time of purchase an implied license to use the six apparatus patents under the exhaustion doctrine—has heretofore been decided against plaintiffs (see p. 669, *supra*). A list of the twenty-two patents originally involved is attached as Appendix D which also shows the fourteen patents which have been taken out of the litigation by Judge Hemphill's prior rulings of invalidity of non-infringement.

⁴⁸ The '375 patent expired just a few days after the trial of this case began on June 14, 1976.

⁴⁹ See diagram in Appendix A for an illustration of the components of the basic false twist texturing apparatus.

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"This invention relates to apparatus for producing bulked yarn by imparting thereto and setting a false twist.

.

"The invention will be better understood by referring to the following description taken in connection with the accompanying drawing in which the figure is a diagrammatic view of one embodiment of the apparatus embodying the present invention.

"Referring to the drawing, the filament 1 from the winding 2 passes through a guide 3 and thence passes through a tube 5 which in the form shown is curved so that the filament contacts the surface of the tube as it is fed therethrough. In some instances, however, the tube 5 may be made straight instead of curved and the filament be caused to contact the side of the tube by suitable guide means. The tube 5 is provided with terminals 6 which are connected to a suitable source of electric current for heating the tube by its resistance effect.

.

"The filament after passing through the tube 5 is fed through a false twister 15 which is rotated by suitable means indicated as a belt 16 and is adapted to produce a twist in the filament which feeds back along the filament toward the heating tube 5 until it is arrested by contact of the filament with the surface of such tube. The temperature of the tube 5 is adapted to heat the filament for setting the false twist therein. Finally, the filament 1 passes through the guide 17 and is then wound onto a spool 18."

[707] A copy of the drawing referred to in the specifications is shown below.

[DIAGRAM OMITTED]

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After two rejections by an examiner in the Patent Office three claims were finally allowed as follows:

"1. Apparatus for setting a false twist in synthetic thermo-plastic filaments comprising a heater tube composed of a peripheral wall completely surrounding a heating zone and made from metal having electrical resistance characteristics, said tube being curved axially into arcuate shape, means passing an electric current through said heater tube for heating said tube due to its resistance, means feeding said filaments through said tube in contact with the inner arcuate surface thereof, and a false twisting device disposed to impart a false twist to the filaments emerging from said tube, whereby the twist feeds along said filaments into the tube and is set therein and is removed after the filaments pass the false twisting device.

"2. Apparatus as set forth in claim 1 in which heat insulation is disposed around said tube.

"3. Apparatus for setting a false twist in synthetic thermoplastic filaments comprising a heater tube composed of a peripheral wall completely surrounding a heating zone, said tube being curved axially into arcuate shape, means heating the walls of said tube, means feeding the filaments through said tube in contact with the inner arcuate surface thereof, and a false twisting device disposed to impart a false twist to the filaments emerging from said tube whereby the twist feeds along said filaments into the tube and is set therein and is removed after the filaments pass the false twisting device."

Plaintiffs contend that the '375 patent is invalid for three reasons: (1) it is anticipated by Gilchrist Patent No.

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2,958,921 (Gilchrist) and is therefore lacking novelty under 35 U.S.C. § 102(e); (2) it is the re-patenting of an old combination, and as such is void under the doctrine of *Lincoln Engineering Company v. Stewart-Warner Corporation*, 303 U.S. 545, 58 S.Ct. 662, 82 L.Ed. 1008 (1938); and (3) the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art, citing as such prior art in addition to Gilchrist Chavanoz's own VanDamme Patent No. 2,761,272, Chavanoz's Belgian Patent No. 539,620, the French Ancet Patent No. 1,090,011 and the Stoddard Patent No. 2,803,105. The plaintiffs also allege that the '375 patent, even if valid, is not infringed by any ARCT machine, because on no machine is the twist [708] arrested in the heater as required by the patent.

Chavanoz and DMRC on the other hand, vigorously assert that the '375 patent constituted a major "break-through" in the field of false twist texturing; that far from lacking novelty, the curved tube heater represented a departure from the conventional wisdom which had taught that the moving yarn should not be allowed to contact the surfaces of the heater; that it filled a long-felt need for a heater that would produce uniform yarns which could be made into "barre-free" fabrics; that no prior false twist apparatus produced yarns of comparable quality or uniformity; and that machines embodying this invention met with unprecedented commercial success. On the question of infringement the defendants merely point to the fact that all ARCT machines sold in this country embody some version of the curved tube heater, and they deny that any significance should be attributed to the twist-arrest-within-the-heater feature mentioned in the patent.

*Memorandum Opinion—444 F. Supp. 648 (D.S.C. 1977)**Validity of the '375 Patent*

35 U.S.C. § 102(e) provides that:

"A person shall be entitled to a patent unless—

"(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent . . ."

In an order entered herein on September 26, 1974, Judge Hemphill, while ruling that the Gilchrist patent could properly be considered on the question of anticipation, found a genuine issue of material fact precluding summary judgment, stating at the same time:

"It is important to keep in mind that the law requires the court to compare (1) the *description* of the Gilchrist, et al., patent with (2) the *claims* of the Chavanoz patent. One does not have to consider the claims of the Gilchrist, et al., patent and one does not have to consider the disclosure of the Chavanoz patent. Rather one compares the claims of the Chavanoz patent with the disclosure of the Gilchrist, et al., patent . . . Whether or not the Gilchrist, et al., 'describes' the closed curve tube heater claimed in the Chavanoz patent is a question for the trier of fact."

The law appears settled that in order to anticipate an invention, "it is necessary that all the elements of the invention or their equivalent be found in one single description or structure where they do substantially the same work in substantially the same way." 1 Deller's Walker on Patents § 57, p. 242.

"Anticipation is strictly a technical defense. Unless all of the same elements are found in exactly

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the same situation and united in the same way to perform the identical function in a prior pleaded patent, there is no anticipation." *Stauffer v. Slen-derella Systems of California*, 254 F.2d 127, 128 (9th Cir. 1957).

With these principles in mind we begin our inquiry to determine whether every element claimed by the '375 patent is disclosed by Gilchrist. If the elements are found to be identical, we must then determine whether they perform substantially the same function in substantially the same manner.

Like the '375 patent, Gilchrist discloses an apparatus for producing textured synthetic yarns by the false twist method. It, too, is a combination patent employing the conventional devices of supply package, feed roll, heater, false twist spindle, output rolls and take-up package. Like the '375, its principal feature is the heater. In the Gilchrist heater the yarn passes through a grooved, banana-shaped "tongue" the concave side of which is fastened at right angles to a pipe of about four inches in diameter through which a hot liquid is circulated. Thus heat is imparted to the tongue and the yarn running through it (PX 48). The grooved tongue is fitted with a flap or lid running longitudinally with it which lid is hinged at one end and shaped to the contour of the tongue. In the closed position this lid and the grooved tongue create a hollow passageway through which the yarn [709] travels. The yarn receives heat only from the tongue which is in contact with the pipe containing the circulating hot liquid.

The apparatus described above is shown in the following diagrams which have been reproduced from the Gilchrist patent.

[DIAGRAM OMITTED]

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In the side view of the apparatus illustrated in Figure 2 the yarn 13, having left the supply package (not shown), traverses a pulley 36 and enters the curved groove 10 which is attached to the pipe filled with hot liquid 11, proceeds thence through the false twist spindle 18 to a second pulley 35 and then onto a take-up package (not shown). In the cross section of the tongue shown in Figure 3 the V-shaped groove 12 is surrounded by insulating material 15 and covered by the hinged flap or lid 14. (The small passage 16 leading from a water supply pipe 17 to the bottom of the curved grooved tongue shown in Figures 2 and 3 are not relevant for present purposes.) The entire apparatus showing electrical leads, etc., is shown in Figure 1.

It is not disputed that Gilchrist discloses all the elements of the broadest of the claims of the '375 patent, claim 3, except those relating to the curved tube heater, and the question for decision, therefore, is whether Gilchrist discloses "a heater tube composed of a peripheral wall completely surrounding a heating zone, said tube being curved axially into arcuate shape, means heating the walls of said tube . . ." The court has concluded that it does.

Although the defendants strenuously point to the presence of uniform heat emanating from 360° around the yarn as constituting the novelty of the '375 patent and the patent itself states that one of the principal advantages of the heater is "the fact that the convection radiation within the said tube, which appears to play an important part in the heating of the yarns continuously traveling through the tube, is sufficiently utilized," claim 3 of the '375 patent requires only a "means of heating the walls of said tube." That this function is satisfied by the Gilchrist apparatus which utilizes circulating hot oil for heating the yarn fila-

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ments passing through the tongue hardly seems open to question.⁵⁰ As Judge [710] Widener said in *Technitrol, Inc. v. Control Data Corporation*, 550 F.2d 992 (4th Cir. 1977):

"In the use of means clauses in patent claims, a 'means for' clause such as those used here '. . . in effect calls for structure—more precisely—for apparatus or, indeed, for any physical body or bodies having the capacity to perform the function recited after the words 'means for'. Such a clause is completely devoid of the details of apparatus capable of satisfying the recitation of function. Indeed a 'means clause' (consisting of the words *means for* and a statement of the function which such means is supposed to perform) is to be construed as calling for ANY means capable of performing the indicated function.' Rosenberg, *Patent Law Fundamentals* (1975), p. 48." (Footnote omitted.) *Id.* at p. 999.

Nor is claim 3 rescued by the fact that the only heating means revealed in the specifications is by electrical resistance, for it has long been the law in this circuit that:

"While the claims should be construed in the light of the specification to obtain an understanding thereof, the limitations specified cannot be read into the claims." *Brown v. Brock*, 240 F.2d 723, 728 (4th Cir. 1957).

To like effect see *Graver Tank & Manufacturing Company v. Linde Air Products Company*, 336 U.S. 271, 69 S.Ct.

⁵⁰ Although the defendants produced reams of evidence attesting the heat uniformity achieved by a curved tube made from heat resistant material and heated by passing an electric current through it, this evidence is relevant only to claims 1 and 2 of the '375 patent to be considered later.

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535, 93 L.Ed. 672 (1949), and *Wilcox Manufacturing Company v. Eastern Gas & Fuel Associates*, 400 F.2d 960 (4th Cir. 1968). Defendants, having claimed broadly, may not now avoid Gilchrist by arguing that their patent only refers to an electrically heated tube that imparts heat evenly from 360° surrounding the yarn.⁵¹

"[A patentee], having sought and obtained a broad construction of his claim, cannot [thereafter] narrow it so as to avoid anticipation by showing that the claimed method was used in a particular form of structure claimed." *Smith v. Hall*, 301 U.S. 216, 232, 57 S.Ct. 711, 718, 81 L.Ed. 1049 (1937).

Finally, under the doctrine of "claim differentiation" the presence of narrow claims, as are claims 1 and 2 of the '375 patent, is evidence that limitations are not to be written into the broader claim 3. *Smith v. Snow*, 294 U.S. 1, 55 S.Ct. 279, 79 L.Ed. 721 (1934). This doctrine was most clearly stated in *Texas Company v. Globe Oil & Refining Company*, 112 F.Supp. 455 (N.D.Ill.1953), *aff'd*, 225 F.2d 725 (7th Cir. 1955), where it was said:

"The essence of the doctrine . . . is that a patentee is entitled both to narrow claims particularly directed to the preferred embodiment, and, to broad claims which define the invention without reference to the

⁵¹ Plaintiffs' expert witness testified that the language of claim 3 encompassed means other than heating the walls by passing electric current through them, Tr. 4, p. 757, and this testimony was implicitly corroborated by the testimony of defendants' expert when he testified that since the heaters on the later ARCT machines were heated both by the resistance of electricity passing directly through the walls of the tube and also by electrical wires wound around the outside of the tube, both methods of heating would constitute "a means for heating the walls of said tube" within the meaning of claim 3. Tr. 52, p. 10,236.

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details of the disclosure; that in such case, the presence of the narrow claims negatives the limiting (by implication) of the broader claims; that the presence of an express limitation in one claim negatives an intent similarly to limit by implication a claim in which the limitation is not expressed; that the spelling out of the specific limitation in one or more claims gives special significance to the absence of such a specific limitation in another claim, because under such circumstances the attention of the applicant and the Patent Office is shown to have been directed to the limitation or to its absence, and the intent is clear that when the limitation was intended it was expressed." *Id.* at p. 467.

[711] Thus for purposes of claim 3 of the '375 patent the remaining question is whether the curved tongue with its hinged flap or lid as disclosed by Gilchrist is an element substantially identical to the "tube" as claimed in the '375 patent. The Gilchrist patent discloses that "four heating units . . . are provided each of which comprises a curved tongue of metal such as copper or brass . . . each of the curved tongues is provided with a V-section groove extending along the length thereof and through which the yarn can be drawn," that "the mouth of each V-groove is closed by a plate and the combination may be enclosed with suitable lagging," and that in order to "prevent heat losses due to convection or radiation or due to the entry of air along the groove . . . a flap may be hinged to the upper end of each tongue and shaped to the contour of the tongue and may project partly into the groove." Other references indicate that the words "flap" and "plate" are used interchangeably, but whatever the hinged lid is called, it is clear that it may be shaped on the bottom side in a fashion so

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as to protrude into the V-groove and thereby narrow the passage through which the yarn passes.

Defendants assert that the triangular shape of the passageway through which the yarn passes in the Gilchrist heater precludes labeling it a tube. Plaintiffs' expert testified, however, that it would be mechanically impossible to make a perfect V unless one uses two intersecting plates of metal, Tr. 5, pp. 918 and 932, and defendants' expert agreed that mechanically speaking, the V-shaped groove disclosed by Gilchrist would be U-shaped, Tr. 60, p. 11,627. Although the court regards as overly creative the suggestion by plaintiffs' expert, Tr. 4, p. 718, that the underside of the hinged lid could be laterally curved so as literally to provide a circular channel through which the yarn could pass, the court is of opinion that the passageway afforded the yarn in the Gilchrist patent is "tubular" or "circular" within any commonly accepted definitions of those words. That the walls of the "tube" are not perfectly rounded does not, in the court's opinion, create a material difference between the Gilchrist and '375 embodiments. Claim 3 is anticipated by Gilchrist.

Claims 1 and 2 of the '375 patent differ from claim 3 in that they require the tube to be made from metal having electrical resistance characteristics and specify that the means for heating the tube is by "passing an electric current through said heater tube for heating said tube due to its resistance." Plaintiffs have acknowledged that Gilchrist does not disclose a method of heating by electrical resistance, Tr. 89, p. 17,133, and thus it would seem at first blush that Gilchrist clearly does not anticipate claims 1 and 2 of the '375 patent. Plaintiffs contend, nevertheless, that heating a metal tube by passing electricity through it was

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well known in the art at the time the '375 patent issued. Citing *Butler v. Helms*, 550 F.2d 954 (4th Cir. 1977), plaintiffs assert that "a merely extraneous structural feature recited in a claim, which has no function with respect to the invention claimed, should not prevent invalidity for anticipation if all of the requirements of anticipation are otherwise met as they are here." *Id.* at pp. 956-7.

The court finds this argument unpersuasive. In *Butler* the validity of a patent for a sailboat canopy was in issue. The only structure claimed in the patent which was not disclosed in an earlier patent for a sailboat canopy was a different means of attaching the canopy to the mast of the boat. However, neither in the claims nor specifications was any virtue attributed to the different mode of attachment. Since this feature was non-inventive, even in the mind of the inventor, there was no difficulty in holding that its existence did not bar a finding of an otherwise clear anticipation. Such is not the case here. The specifications of the '375 patent point to the uniformity of heat derived from the material of which the tube is made and the manner in which electricity is passed through it. Most of the defendants' evidence on the inventiveness of this patent is addressed to this point. More importantly, there is no evidence that anyone had ever heated a [712] curved tubular element with electricity. Thus this is not the mere recitation of extraneous structure which led to the holding in *Butler*. Claims 1 and 2 of the '375 patent are not anticipated by Gilchrist within the purview of 35 U.S.C. § 102.

The plaintiffs' second ground of attack on the validity of the '375 patent is that it is merely the re-patenting of an old combination with one element, the heater, perhaps improved. Plaintiffs' position may be briefly summarized

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as follows: The '375 patent is the sixth Chavanoz patent claiming a false twist apparatus combining a yarn feeding and guide means, a yarn heating means, a false twist means and a yarn take-up means. The only difference in the combinations is the specific heating means disclosed. Plaintiffs argue that because the heater in the '375 patent performs no new function and produces no different result than any of the earlier heaters, it is obviously invalid as a re-patenting of an exhausted combination. Plaintiffs further argue that even if as a result of the improved heater in the '375 patent a new result, that is, a better yarn, is achieved, the patents still cannot survive scrutiny under the doctrine in *Lincoln Engineering Company v. Stewart-Warner Corporation*, 303 U.S. 545, 58 S.Ct. 662, 82 L.Ed. 1008 (1938). Plaintiffs assert that under *Lincoln Engineering* improvement of one element of an old combination, even if it leads to the production of a better result by the entire combination, does not make the combination patentable unless the old elements of the combination perform their functions in new and different ways.

Defendants, on the other hand, argue that the doctrine of *Lincoln Engineering* is inapplicable to the '375 patent for at least three reasons: "First, the elements of apparatus claimed in the patent cooperate with one another to achieve the object of the invention. Second, the patented apparatus achieves a new and improved result. Third, no one in our case has sought to enlarge their patent rights by suing sellers of old devices for contributory infringement of this patent." (Appendix A to defendants' post-trial brief.) Additionally, defendants assert that *Lincoln Engineering* is no longer sound law.

In *Lincoln Engineering* the patent involved was for an apparatus for lubricating bearings in which a nipple or

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fitting was connected with the bearing, a gun connected to a pump forcing lubrication under pressure, a hose connecting the pump with a fitting, and means of coupling the hose to the fitting to make a tight joint during greasing. The Supreme Court held this to be an old combination in the bearing lubrication art, and in holding the patent claim void the court said:

“As we said of Gullborg in the [*Rogers v. Alemite Corporation*, 298 U.S. 415, 56 S.Ct. 787, 80 L.Ed. 1251] case . . . having hit upon this improvement he did not patent it as such but attempted to claim it in combination with other old elements which performed no new function in his claimed combination. The patent is therefore void as claiming more than the applicant invented. The mere aggregation of a number of old parts or elements which, in the aggregation, perform or produce no new or different function or operation than that theretofore performed or produced by them, is not patentable invention. And the improvement of one part of an old combination gives no right to claim that improvement in combination with other old parts which perform no new function in the combination.” 303 U.S. 545, 549, 58 S.Ct. 662, 664-65, 82 L.Ed. 1008.

Lincoln Engineering was applied by the Fourth Circuit in *Heyl & Patterson, Inc. v. McDowell Company*, 317 F.2d 719 (4th Cir. 1963). In that case the patent was for a combination titled an apparatus for loading bulk material into a ship's hold. In declaring the patent void the court said:

“The patent is also invalid for claiming too much. The mere improvement of one portion of an apparatus does not permit a patenting of the whole [citing

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Lincoln Engineering and other cases]. Plaintiff, having at the very most hit upon a mechanical change to facilitate the use of [713] the upper end of the chute leading to the ship's hold in place of a stationary pan, patented the entire apparatus from the hopper to the gate. This is much more than any possible invention to be found in plaintiff's apparatus.

“We therefore, hold that the plaintiff's patent is invalid in that it is lacking in invention and because it claims too much. The findings of the Patent Office and the District Court to the contrary are clearly erroneous.” *Id.* at p. 723.

Application of the rule in *Lincoln Engineering* to the facts of the present case has led the court to the conclusion that the '375 patent is void. Like its five Chavanoz predecessors (Patents Nos. 2,741,893; 2,761,272; 2,780,047; 2,823,513; and 2,823,514) the '375 patent is simply a combination of the essential elements of the false twist process, all of them old in the art, the heater being the only element for which improvement was claimed.

Contrary to defendants' argument, the heater element on the '375 patent does not “cooperate” with the other elements within the meaning of the *Lincoln Engineering* doctrine, for cooperation with other elements means something more than the performance by each element of the same function in the same manner it was designed to perform. Normally all elements, old or new, must of necessity “co-act” or the machine will not operate. In order to support a finding of invention, however, it must appear that the co-action of the improved element with the old elements has a synergistic effect, that is, “[the] combination of elements [must] result in an effect greater than the sum of the several effects taken

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separately.” *Anderson’s-Black Rock, Inc. v. Pavement Salvage Company*, 396 U.S. 57, 61, 90 S.Ct. 305, 308, 24 L.Ed.2d 258 (1969). For instance, if a re-designed heater allowed the false twist spindle to operate at substantially greater speeds than had been possible with old heaters, the new heater and the old spindle would be “co-acting” in a manner different from old heaters and old spindles with the much desired and sought after result of higher production. No such showing has been made here. For all that appears from the evidence, installation of the ’375 heater on the false twist machines resulted in no change whatever in the function of the other elements on these machines. They continued to function in precisely the same manner as in earlier patented combinations.

It may be conceded, as defendants stressfully contend, that machines with the ’375 heaters produced better quality and more uniform yarns. But here again this is not the test of invention.⁵²

⁵² In his order of May 7, 1973, denying a motion for summary judgment as to the ’375 patent Judge Hemphill said:

“This court has heretofore commented on what *Lincoln Engineering (supra)* has propounded as the law of the land: That the improvement of an old combination gives no right to claim that improvement in combination with other old parts which would perform no new function in the combination. *Lincoln* also held, however, that where the improvement brings about a *new or improved result, or the performance of a new function*, that the fact that the old elements were included would not be ground for invalidity, but would be ground for validity.”

It is clear, however, that by this statement Judge Hemphill did not mean to imply that the requirement of co-action of the old elements with the improved element could be dispensed with simply by a showing that the improvement brings about a “new or improved

(footnote continued on following page)

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In *Electrolux Corporation v. Dust Pak*, 215 F.Supp. 367 (E.D.N.Y. 1963), *aff’d*, 330 F.2d 958 (2nd Cir. 1964), suit was brought for infringement of a patent for the construction of a disposable paper filter bag for use principally in vacuum cleaners of the horizontal cylinder type. The single claim of the patent was upon a combination of certain of the structural elements that made up the bag and end member. Novelty was not claimed for any constituent element but for the union of the elements. In declaring the patent void the court said:

“Invention cannot be found in Anderson’s bringing to the familiar combination a better or, perhaps, a merely better defined bag element than was earlier in use. The case is in principle within *Bassick Co. v. R. M. Hollingshead Co.*, 298 U.S. 415, 425, 56 S.Ct. 787, 80 L.Ed 1251 (1936); *Lincoln Engineering Co. v. Stewart-Warner Corp.*, 303 U.S. 545, 547-548, 549-550, 58 S.Ct. 662, 82 L.Ed. 1008 (1938); *Application of Lambert*, 165 F.2d 441, 443, 35 Cust. & Pat.App. 839 (CCPA 1948). There is not room to argue that Anderson brought into play any new principle or change in the method of co-action of the elements of the old combination. He brought to it a better bag

(footnote continued from preceding page)

result”, for in a subsequent order entered June 19, 1973, following re-argument on the motion Judge Hemphill responded to defendants’ argument “centered upon an insistence that patent ’375 was a combination apparatus producing improved yarn” by quotations from *Anderson’s-Black Rock* including the following:

“We conclude that while the combination of old elements performed a useful function, it added nothing to the nature and quality of the radiant-heat burner already patented . . . Use of the radiant-heat burner in this important field marked a successful venture. But as noted, more than that is needed for invention.” 396 U.S. 57 at pp. 62-63, 90 S.Ct. at p. 308-09.

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as a bag and it was better wholly within the functions and attributes that belonged to it as a bag. The improvement in the combination was solely derived from the increment in an unchanged kind of utility within that one element of the familiar combination and not in anything peculiar or specific to the union of elements that is the genius of the claim. Concededly, or if not so, then manifestly, there is not here anything distinctly patentable as an improvement in the carrying-bag art, or indeed in any distinct element of the combination. What has been brought to the combination is not an infusion of fresh invention—but good manufacturing practice and a good choice of a bag from the obviously pertinent carrying-bag art.” *Id.* at p. 370.

In order to be patentable in the first place a machine or an improvement thereof must be “new and useful”, 35 U.S.C. § 101, but the mere factors of novelty and utility in one element of a machine do not justify a repatenting of the entire machine consisting of a combination of the new element with old elements whose functions remain unchanged.

Two Fourth Circuit cases cited by defendants for the proposition that a new result by itself is sufficient to escape the prohibition against re-patenting old combinations, *Marvel Specialty Company v. Bell Hosiery Mills*, 330 F.2d 164 (4th Cir. 1964), and *Colgate-Palmolive Company v. Carter Products*, 230 F.2d 855 (4th Cir. 1956), are not controlling here. These cases simply state the settled rule that even though all of the elements in a combination patent may be known to the prior art, the combination itself may be patentable if it achieves a non-obvious result. Neither case deals with the situation that arises when such a combination has earlier been patented and a later patent at-

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tempts to re-patent the entire combination based on the improvement of only one element.

Two other cases, *Porter-Cable Machine Company v. Black & Decker Manufacturing Company*, 274 F.Supp. 905 (D.Md. 1967), and *Reese v. Elkhart Welding & Boilerworks, Inc.*, 447 F.2d 517 (7th Cir. 1971), cited by defendants in support of the proposition that a new result alone is sufficient to justify the re-patenting of an old combination do not squarely support defendants’ position when read closely, for in both cases it was expressly found that the old elements interacted with the improved element in a new fashion to produce the new result.

In a third argument advanced by defendants they undertake to distinguish *Lincoln Engineering* on the grounds that it involved a suit for contributory infringement. In their post-trial brief they say:

“Our suit, on the other hand, is not for contributory infringement. We assert infringement of U.S. Patent 2,891,375 only against Throwsters who use in combination all of the elements of apparatus claimed in the patent. Neither DMRC nor Chavanoz has ever asserted that apparatus comprising less than all of the elements claimed infringes or contributorily infringes this patent. On the contrary, we readily admit that no one infringes this patent by the use of any apparatus or combination that does not [715] include the novel improvement claimed in the patent. Therefore, *Lincoln Engineering* and *Bassick* are inapplicable.”

For this proposition defendants cite *Williams Manufacturing Company v. United Shoe Machinery Corporation*, 316 U.S. 364, 62 S.Ct. 1179, 86 L.Ed. 1537 (1942). In that

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case the Supreme Court affirmed a judgment upholding the validity of a patent for improvements in the automatic heel lasting mechanism in a shoe making machine. The alleged infringer, relying on *Bassick Manufacturing Company v. R. M. Hollingshead Company*, 298 U.S. 415, 56 S.Ct. 787, 80 L.Ed. 1251 (1936), and *Lincoln Engineering*, contended that the patentee could not "by improving elements of an old combination whose construction and operation is otherwise unchanged except as modified or improved by the adjustments, in effect re-patent the old combination for another seventeen years by reclaiming it with the improved elements substituted for the old elements," and that the courts below had erred in holding the contrary. Responding to this contention the Supreme Court said:

"The contention is not in accord with the holdings below . . . In respect of each claimed combination, both courts have found that they embody other improvements, in addition to mere manual preliminary adjustments, and that each combination exhibits invention in that its elements cooperate in a new and useful way to accomplish an improved result. . . .

"[E]ach of the claims is confined to a combination of specified means applicable only to a restricted portion and function of the whole machine. In stating his claims, the patentee sometimes says 'a machine of the class described having, in combination, . . . ' Obviously, no machine will infringe which does not have in combination the means specified in each of the claims for accomplishing the particular portion of the total operation covered by the claim. . . .

"Such preliminary statement is commonly and properly used to specify the type of machine in which the claimed subsidiary combination of elements works an improvement over the prior art. In describing

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the novel combinations embodied in the claims, it was necessary to make reference to certain portions of the machine in connection with which the new combinations were to operate and with which they were to dovetail, but, in mentioning these other mechanical parts, the claim does not purport to embody them as elements of the claimed combination." 316 U.S. 364, 368-9, 62 S.Ct. 1179, 1181-82, 86 L.Ed. 1537.

It is true that in holding *Bassick and Lincoln Engineering* not applicable to the facts in *Williams Manufacturing* the court said that they were suits for contributory infringement. But it is clear from the context in which the statement was made that this was not the grounds of the distinction. Rather, it was the fact that in *Bassick and Lincoln Engineering* the patentees, unlike the patentee in *Williams Manufacturing*, had undertaken to repatent all of the elements of the combination without regard to whether the improved element cooperated with the old elements "in a new and useful way to accomplish an improved result."

"The effort was to extend the monopoly embodied in the improved pin fitting so as to prevent sale or use of well known grease guns of the prior art, although whatever was novel in the improved pin fitting was peculiar to itself and had nothing to do with the grease gun commonly used in connection with all pin fittings. Had the claim merely recited that it applied to an improved type of pin fitting to be used in connection with grease guns and couplers, the claim for the pin fitting would have been good, and would not have been rendered bad by the statement that the fitting was intended for use in connection with those other instrumentalities." 316 U.S. 364 at p. 370, 62 S.Ct. 1179 at p. 1182, 86 L.Ed. 1537.

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And so it is here. Had the claims of the '375 patent simply recited that it applied to an improved type of heater to be used in connection with the other elements [716] of a false twist machine (feed rolls, false twist spindles, etc.), the claim for the heater (assuming it otherwise satisfied the statutory requirements for invention) would not have been rederead bad by the statement that it was intended for use with these other instrumentalities.

Defendants' attempt to distinguish *Lincoln Engineering* on the grounds that it involved a suit for contributory infringement is rejected.

Defendants' final argument on this issue is that *Lincoln Engineering* is no longer good law. They find support for this assertion in *In re Bernhart*, 417 F.2d 1395, 57 CCPA 737 (1969), and in a more recent decision by the Patent Office Board of Appeals, *Ex Parte Barber*, 187 U.S.P.Q. 244 (1974).

In *Bernhart* the examiner had rejected a combination claim under 35 U.S.C. § 112.⁵³ After quoting Section 706.03(j) of the Manual of Patent Examining Procedure to the effect that an applicant who has improved one element of a combination "which may be *per se* patentable" is not entitled to a claim to the improved element in combination with the old elements where the elements perform no new function in the combination and conceding that this rule has the support of many cases including *Lincoln Engineering*, the court went on to say:

⁵³ 35 U.S.C. § 112 reads in pertinent part as follows:

"A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.
". . . A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers."

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"Why an applicant should not be so entitled is not clear. Many cases have said that the combination claim reciting only one new element with no new result is overclaiming or claiming more than the applicant invented. Such statements are indeed puzzling in view of the fact that the addition of elements to a claim *narrows* its scope and thereby creates a lesser monopoly. Others have said the combination is not new, or is obvious, if no new coaction or result is obtained. This too is unsound, since it is not the result which is to be patented but the recited machine, composition, etc. If the prior art does not show or suggest the improved element itself, it defies logical reasoning to say that the same prior art suggests the use of that improved element in a combination." 417 F.2d 1395 at p. 1402.

On the basis of this reasoning the court declined to follow *Lincoln Engineering* and concluded that the rejection of the claims in question on the ground of old combination under 35 U.S.C. § 112 was erroneous.

This decision was followed in *Ex Parte Barber*, *supra*, a two-one decision of the Patent and Trademark Office Board of Appeals. In each case it was held that the provisions of Section 112 had been satisfied,⁵⁴ and the Board of Ap-

⁵⁴ "It is clear to us that appellants' claims define subject matter which they regard as their invention. The fact that appellants have invented an improved muffler *per se* does not, in our opinion, mean that the present claims do not also define what they regard as their invention. Obviously, appellants' muffler has little use *per se*; it was intended and is to be used in an internal combustion system. It is believed therefore that the present claims merely reflect this fact by setting forth the improved feature in association with its intended environment. We note that the claims, set forth as a combination of elements, recite the muffler in terms no broader than those in the patent to the muffler *per se*." *Ex Parte Barber*, 187 U.S.P.Q. 244, 246 (1974).

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peals in *Barber* went on to express its agreement with the Court of Customs and Patent Appeals in *Bernhart* in declining to follow *Lincoln Engineering*, stating:

“Bearing in mind however that *Lincoln Engineering* came to the court on an issue of contributory infringement, we think it fair to assume that the court may have had in mind the possibility of a party somehow being held liable for making, using or selling a nonpatented article merely because it ultimately became part of a patented *combination*. Such fears, whether or not warranted in 1938, clearly have no basis under today’s statute, since [717] 35 U.S.C. 271(c) limits contributory infringement to ‘a material part of the invention’ which is ‘especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use’. Thus, we think it may reasonably be said that by incorporating this statute into the Patent Act of 1952, a statute having no prior counterpart, Congress removed the underlying rationale of *Lincoln Engineering* and thereby effectively legislated that decision out of existence.” *Ex Parte Barber*, 187 U.S.P.Q. 244, 246 (1974).

In a well reasoned dissenting opinion Examiner in Chief Magil took issue with this hypothesis, pointing out that notwithstanding the amendments to the patent law in 1952, the courts, with the exception of the Court of Customs and Patent Appeals in *Bernhart*, have continued to follow *Lincoln Engineering* and that no court has cited *Bernhart* for the proposition that *Lincoln Engineering* is no longer viable. Concluding that the question should be clarified at a higher level, Examiner in Chief Magil said:

“If the *Bernhart* decision were the last word on this subject, I would have no hesitation in reversing

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the rejection in the present case because I firmly believe that a proper judicial system requires that a lower tribunal follow the principles laid down by a higher tribunal. However, the history of ‘old combinations’ during approximately the past five years cannot be disregarded.” 187 U.S.P.Q. at p. 247.

This court agrees. In the almost eight years which have elapsed since *Bernhart* was decided no other court has followed it on this point nor has any other court concluded that *Lincoln Engineering* does not remain good law. It was followed in the Fourth Circuit long after the patent laws were rewritten in 1952 in *Heyl & Patterson, Inc. v. McDowell Company*, 317 F.2d 719 (4th Cir. 1963), a case which, incidentally, did not involve contributory infringement. Notwithstanding the seeming harshness of the rule in *Lincoln Engineering*, the policy of the patent law which “visits total forfeiture upon a patent which attempts to extend its monopoly to something already patented” remain unchanged. *Holstensson v. V-M Corporation*, 325 F.2d 109, 122 (6th Cir. 1963).

Indeed, the fact that the policy underlying the rule in *Lincoln Engineering* was first stated by the Supreme Court of the United States one hundred fifty years ago in *Evans v. Eaton*, 7 Wheat. 356, 20 U.S. 356, 5 L.Ed. 472 (1882), affords this court ample reason for declining the suggestion that it is no longer good law absent statutory change or a pronouncement by higher authority binding on this court.⁵⁵

⁵⁵ “From this enumeration of the provisions of the act, it is clear that the party cannot entitle himself to a patent for more than his own invention; and if his patent includes things before known, or before in use, as his invention, he is not entitled to recover, for his patent is broader than his invention. If, therefore, the patent be for the

(footnote continued on following page)

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"In contemplating this seemingly drastic rule, we bear in mind that there is no natural or common law right to a monopoly of an invention. . . . Applicants for such monopolies must comply with the requirements that Congress insists be met as a condition to exercising such monopoly. The seeming harshness of this rule is further ameliorated when we keep in mind that an inventor may gain monopoly for an inventive improvement to an existing device simply by limiting his claim to that which he did invent." *Holstensson, supra*, at 125.

In summary, the '375 patent represents nothing more than the sixth repatenting [718] by Chavanoz of an old combination with one element, the heater, improved with the other elements performing the same functions in identical fashion in each of the "inventions" and with any new result in the operation of the overall apparatus being directly attributable to the improvement in the heater element. The patent is condemned under the doctrine in *Lincoln Engineering*.

The plaintiffs' third ground of attack on the '375 patent is that it is void for obviousness under 35 U.S.C. § 103 which reads:

"A patent may not be obtained though the invention is not identically disclosed or described as set

(footnote continued from preceding page)

whole of a machine, the party can maintain a title to it only by establishing that it is substantially new in its structure and mode of operation. If the same combinations existed before in machines of the same nature up to a certain point, and the party's invention consists of adding some new machinery, or some improved mode of operation, to the old, the patent should be limited to such improvement, for if it includes the whole machinery, it includes more than his invention and therefore cannot be supported." *Evans v. Eaton*, 7 Wheat. 356, 20 U.S. 356, 430-431, 5 L.Ed. 472 (1822).

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forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made."

The court has concluded that the patent is void for obviousness under this statute.

The '375 patent on its face discloses initially that it is the fourth in a series of patents by the same inventors on a false twist texturing apparatus. According to the patent, "an object of the present invention is to provide a further improvement in which the heating element is a metal tube of small diameter which constitutes an electric resistor." The patent goes on to say:

"The principal advantage of the resistor-type heating tube is that it is easier to produce with uniform resistance properties than the U-blade [also known as the "umbrella rib"], which is a tubular segment and the fact that the convection radiation within the said tube, which appears to play an important part in the heating of the yarns continuously traveling through the tube, is efficiently utilized.

"For all these reasons, the output of the electric heating is clearly improved and the heat losses are reduced to a minimum."

Three claims were finally allowed by the Patent Office as set forth in full on pages 707, *supra*.

As discussed in the previous section on validity, the principal features of claims 1 and 2 are "a heater tube

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composed of a peripheral wall completely surrounding a heating zone and made from metal having electrical resistance characteristics, said tube being curved axially into arcuate shape, means passing an electrical current through said heater tube for heating said tube due to its resistance,” and claim 3 differs only in that the means for heating the tube is not limited to electrical resistance. Our task, then, is to determine if the differences between the subject matter sought to be patented and the prior art were such that the subject matter as a whole would have been obvious to a person having ordinary skill in the art at the time of the invention.

The oft-repeated test for obviousness under 35 U.S.C. § 103 is that

“[T]he scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.” *Graham v. John Deere Company*, 383 U.S. 1, 17, 86 S.Ct. 684, 694, 15 L.Ed.2d 545 (1966).

Scope and Content of the Prior Art.

Although the plaintiffs cited a large number of patents against the '375 patent as establishing the scope and content of the prior art, in their proposed findings of fact they rely on only five patents as prior art:⁵⁶ [719] United States

⁵⁶ Citing *Reynolds v. Whitin Machine Works*, 167 F.2d 78 (4th Cir. 1948), defendants make the point that the sheer number of patents cited against the '375 patent is evidence of its non-obviousness. As a practical matter, however, it is difficult to see how the scope and content of the prior art can be accurately assessed without looking at the art as it has developed, and this may very well involve looking at a number of patents.

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Patents Nos. 2,803,105 (“Stoddard '105”, PX 32); 2,958,921 (“Gilchrist '921”, PX 47), and 2,761,272 (“Vandamme '272”, PX 4); French Patent No. 1,090,011 (“Ancet '011”, PX 42-A), and Belgian Patent No. 539,620 (“Belgian '620”, PX 44). Of these the Vandamme '272, Stoddard '105 and Ancet '011, along with the United States Patents 2,813,393 (Kingsburg '393) and 2,823,292 (Kunzle '292) were cited to the Patent Office. Gilchrist '921 and Belgian '620, the latter well known to Chavanoz, were not cited.

The Stoddard, Ancet and Kunzle patents establish that at the time of the invention described in the '375 patent straight false twist machine heater tubes of small diameters were well known in the art. Curved contact heaters were equally well known, having been disclosed in the Gilchrist, Ancet, Vandamme and Belgian '620 patents as well as in the Lewis patent (United States Patent No. 2,199,411, PX 18). Two of these patents, Gilchrist and Vandamme, disclosed that the curved contact heater should be covered in order to prevent heat loss and temperature variation due to ambient air conditions, and the Belgian '620 patent disclosed that the curved heating strip should be surrounded by a cylinder of insulating material. Electrical resistance as the source of heat supply to a false twist machine heater was also well known, having been disclosed in the Lewis, Ancet, Belgian '620 patents and one of DMRC's own patents, Klein Patent No. 2,777,276 (PX 31).

As a starting point, therefore, it should be borne in mind that at the time of the application for the '375 patent, contact heating, straight tube heating, and heating by electrical resistance were each individually disclosed by the prior art. We turn, then, to a more detailed consideration of the five patents actually relied on by plaintiffs as invalidating the '375 patent for obviousness.

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Stoddard '105. This patent discloses an apparatus for processing thermoplastic textile yarns. It is not primarily a false twist machine, but rather an "uptwister" in which the yarn is taken off the machine in a twisted condition and later run through a machine again to untwist it before it is commercially usable. Of particular interest is the heater which is described as "a tube of non-ferrous material and of small diameter and bore, through which the yarn is passed, said tube being exteriorly insulated with glass or other electrical insulation and surrounded by coiled resistance wire." Later on the patent discloses that "it is to be particularly noted that the winding pitch of the heating coil increases progressively from the bottom of the tube at which the yarn enters to the mid height of the tube and progressively decreases at a similar rate toward the top or exit end of said tube. As a result, a greater amount of electrical energy is provided at the entrance and exit ends of the tube making possible the maintenance of a desired uniform temperature throughout the tube." The patent further discloses that the apparatus should be equipped with voltage regulators and thermostatic sensing means "of any approved standard and commercially available types by cooperation of which the temperature and the heating device is modulated compensatively with changes in ambient or room temperature and transfer of heat to a yarn traveling therethrough." The commercial embodiment of this patent was the Flufon machine marketed by Leeson.

Ancet '011. This patent was sometimes referred to in the trial as "The Antique Shop" because of its comprehensive claiming of all that had gone before it in the field of up-twisting and false twisting. Again, the heating unit is of particular interest. The patent discloses that yarn in the false twisting process may be heated in "any suitable

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manner"; however, it is "preferably performed by causing the yarn to rub against a heating plate, for instance, a plate of polished metal heated by an electric resistor." The patent further discloses that the heating device can be similar to that claimed by Stoddard, for one may "have the yarn traverse a tube electrically heated to such a temperature that the walls [720] heat up said yarn by radiation to the desired temperature. . . . Such a device makes it possible to achieve a very even heating of the yarn through the strict compliance with a certain number of conditions, that is to say, a strict control of the temperature of the wall of the tube, and absolutely constant speed of the yarn and the absence of eddy air currents capable of disturbing the operation." The diagrams in this patent disclose both variations, both a straight tube radiant heater and an open-faced contact heater.

Ancet '011 as well as Stoddard '105 were cited to the patent examiner, and the claims of the '375 patent were initially rejected based largely on Ancet. The file wrapper shows that originally Chavanoz sought to patent a *straight* tube contact heater, with a dependent claim 3 in which the heater was curved. Claim 1 (and claim 2, which throughout has only involved the addition of insulation around the heater tube) was rejected as obvious in the light of Ancet's disclosure of both an electrical resistance contact heater and a tubular heater. Claim 3 was rejected as being unpatentable over Ancet, especially in light of the fact that Chavanoz's own Vandamme '272 patent, to be discussed later, disclosed a curved heater.

Gilchrist '921. This patent has been discussed in some detail in the previous section on validity. Recapitulating, the heater apparatus disclosed therein is a curved tongue of metal, with a V-shaped groove slightly rounded at the

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bottom through which the yarn travels. A hinged lid or flap fits over the top of the tongue, and it may be shaped so as to protrude down into the groove and further narrow the passageway for the yarn. The system is heated by means of hot oil passing through a metal tube to which the tongues are attached. According to the patent, the reason for enclosing the yarn is to "prevent heat loss due to convection or radiation or due to the entry of air along the groove." As previously stated, Gilchrist does not anticipate claims 1 and 2 of the '375 patent only because that patent claims a specific heating means (electrical resistance) not embodied in Gilchrist.

When analysis is made of the final argument made to the patent examiner before the '375 patent issued it is seen that Gilchrist is the most pertinent prior art in this area. Following the rejection of the first application based largely on the Ancet '011 patent, Chavanoz refiled basically the same application with some cosmetic changes. The application was again rejected, this time as being unpatentable over Kingsburg, a patent never mentioned thereafter, and Kunzle, who disclosed a straight electrically heated tube. Again claim 3, which at this point was still the curved embodiment of the straight tube *contact* heater disclosed in claim 1 of the application, was rejected as simply being unpatentable in view of the Vandamme '272 patent that disclosed a curved contact heater. In the last arguments made to the patent examiner, the solicitor distinguished the Vandamme curved contact heater as rapidly dissipating the heat, presumably because it is open. It seems highly likely that if the examiner had had the Gilchrist patent before him at that time, the fact that it is a closed curved heater would have affected his conclusion.

The Vandamme '272. The heating means on this particular false twist apparatus patented by Chavanoz is a

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hollow curved metal casing with hot oil passing through the inside of the casing and the yarn being heated by passing over the outside. According to this patent the curvature of the metal casing is such that the yarn is "caused to contact the casing for a substantial distance in its travel." In addition, the patent states that "excessive heat loss is prevented by a reflecting insulated cover plate which is disposed on the side of the casing over which the yarn passes and reflects heat from the casing onto the yarn." As mentioned earlier, the patent examiner rejected the '375 claims twice on the grounds that no invention was involved in combining the straight tube heaters known through various pieces of prior art and the curved contact heater disclosed in the '272 patent.

The Belgian '620. This is the Belgian counterpart of United States Patent 2,780,047 [721] (the '047 patent), which disclosed the "umbrella rib" heater. Although the co-pending application for the '047 patent was disclosed in the application for the '375 patent, the fact that the '620 patent had issued in Belgium in time to be considered as prior art against the '375 patent was not disclosed to the examiner. Defendants, citing the rule against double patenting, argue that this was harmless error, because the examiner would not have issued both patents if either was obvious in light of the other.

The cases cited by defendants on this issue indicate that double patenting is a complicated and convoluted doctrine. Contrary to plaintiffs' assertion, the Court of Customs and Patent Appeals has stated that it is "a firmly established rule in this court for over thirty years that when the applicant takes out a patent on one of two or more co-pending applications on closely related inventions, he shall not be allowed claims in the other applications except on

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subject matter which is patentably different from the subject matter claimed in his earlier patent.” *Application of Zickendraht*, 319 F.2d 225, 50 CCPA 1529 (1963). Therefore, it appears that once the '047 patent issued a patent examiner would not have been free thereafter to issue the '375 patent unless he believed it was non-obvious over the '047 patent. In addition, a patent examiner may rely on the claims of a patent issued on a co-pending application, in combination with other pieces of prior art, to reject a later application from the same inventor. *Application of Simmons*, 312 F.2d 821, 50 CCPA 990 (1963).

Given these rules, however, there is one basic difference in the effect that the examiner was free to give to the co-pending application for the '047 patent as contrasted with the effect he would have been able to give to the Belgian '620 patent had it been cited to him. The rule is that a patent resulting from a co-pending application by the same inventor may be relied on to invalidate a later application only insofar as its specific claims render the later application obvious. This differs from a consideration given to a piece of prior art, for in such case all that is disclosed in the prior art may be considered in making the obviousness determination. *Application of Simmons, supra*, 312 F.2d at 823. Because of this difference and because of the general unsettled nature of the law of double patenting, defendants should not be able to rely on it to excuse their failure to cite their own Belgian '620 patent to the examiner as pertinent prior art.

Turning to the substance of the Belgian patent, we find therein disclosed an apparatus for false twist texturing in which the heater consists of a curved strip of metal that is U-shaped in cross section, with the yarn being heated by contact with the bottom of the U. The heater is made of

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electrically resistant metal, and the means of heating is by passing electricity directly through the heating element. The patent further teaches that in order “to prevent heat losses, the shaft or strip (which is the heating element) may be contained in a cylinder made of insulating material . . . and provided with a longitudinal slot opposite the hollow part of the strip or shaft.”

In summary, these five patents support the conclusion that at the time of the application for the '375 patent contact heating elements, tubular heating elements, and insulated electrical resistant heating elements were all well known to the art.⁵⁷

[722] Differences Between Prior Art and the '375 Patent

The defendants have summarized their contentions as to the structural differences between the prior art and the '375 patent as follows:

1. “It maximized the efficiency of heat transfer to the yarn by using conduction, convection and radia-

⁵⁷ The court has considered defendants' argument that at least some of the patents (notably Gilchrist) cited by plaintiffs were unworkable “paper patents”, and thus not entitled to weight in determining the scope of the prior art. For this proposition defendants cite *Bowser, Inc. v. Richmond Engineering*, 166 F.Supp. 68 (E.D.Va. 1958), modified, 264 F.2d 595 (4th Cir. 1959). More recent holdings on this subject from the Fourth and other circuits are contra. As stated by Judge Widener in *Blohm & Voss v. Prudential-Grace Lines, Inc.*, 489 F.2d 231, 240 (4th Cir. 1973), “the issuance of the patent, however, creates a presumption that it is workable (citations omitted) and the alleged unworkability of a patent does not necessarily preclude its relevance in ascertaining the scope and content of the prior art. . . .” A more complete discussion of this issue is found in *Sutter Products Company v. Pettibone Mulliken Corporation*, 428 F.2d 639 (7th Cir. 1970), at pp. 646-647.

The court concludes, therefore, that the prior patents should be given the full effect of what they disclose, even where there is no evidence that a particular patent ever resulted in a commercially saleable machine.

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tion heating in a way that was superior to any other heater design.”

2. “Conduction heating was achieved by the curvature of the tube which forced the yarn into almost continuous contact with the heater walls. (In grooved heaters, such as Scragg and Leeson, the yarn could and did jump out of the track to a place where it would receive less or no contact heat; if it jumped in an ARCT heater, it could land only on a heat generating surface.)”

3. “Convection heating resulted from the contact of the yarn with hot gasses swirling in the tube—gasses which retained their heat because they were surrounded or trapped by heater walls which were constantly generating heat;” and

4. “Finally, radiation heating was maximized again by the fact that heat was generated all around the yarn.

“In short, the curved tube design of the '375 patent combined in one heater every advantage of all other heaters known to the art.” Defendants’ proposed findings of fact III-58.

The question thus becomes, could a person of ordinary skill in the art, presumed to be familiar not only with the heaters already in commercial existence but also with the teachings of Chavanoz’s own Vandamme '272 and Belgian '620 patents that were not embodied on any machines at that time, have hit upon the idea of combining all of the advantages of these various heaters into the curved tube heater? The testimony of defendants’ expert discloses that in fact the advantage claimed for the '375 heater by defendants is the manner in which it combined well known features of the prior art to achieve the most efficient result possible. Tr. 59, 11580-82.

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For reasons not quite clear to the court defendants throughout have limited their consideration of the relevance of the prior art to heaters that were actually embodied on commercial machines at the time the '375 patent was applied for.⁵⁸ They simply ignore for the most part the existence of earlier patents in this area and the pertinent teachings found within them. Thus although their conclusion about the conventional wisdom being employed by Leeson and other machinery manufacturers may be correct, it ignores the fact that Chavanoz in the Belgian '620 patent of a year earlier had already abandoned the conventional wisdom by teaching that the yarn should pass through a curved heater surrounded by an insulating cylinder. Also, the Gilchrist patent, with a priority date at least two years earlier, had abandoned the conventional wisdom insofar as it taught that the yarn should be fully enclosed while the machine was in operation. The patentability of the '375 patent cannot be sustained on the ground that it was the first commercially satisfactory heater.

In distinguishing the '375 patent from the prior art defendants’ strongest argument, and the argument on which this patent must rise or fall, is that its structural features achieved the non-obvious result of allowing the heater temperature to be closely regulated within one position and from position to position across the machine. [723] Defendants’ position is that even if it might have been obvious

⁵⁸ “Heaters made by Leeson and by all other machinery manufacturers conformed to the conventional wisdom that (a) in intentional contact heating of the yarn, the operator had to have direct access to the heater surface; and (b) if yarn was heated by running it through a tube, the tube had to be straight and yarn contact with the tube had to be avoided. Chavanoz rejected this ‘wisdom’, departed radically from all prior heaters, and came up with the first commercially satisfactory heater.” Defendants’ trial brief, pp. 22-23.

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to a man of ordinary skill in the art to shape a heater like that disclosed in the '375 patent, he would have refrained from doing so because nothing in the prior art taught him that such a heater would have any particular advantages over any of the earlier models. Basically, all of defendants' proposed findings of fact go to this issue. They create a picture of an industry desperately searching for a heater that could provide a uniform, quality yarn and they assert that the ARCT machine embodying the '375 heater obtained quick and universal recognition as the solution to this problem.

Plaintiffs' on the other hand assert that the ARCT machine produced yarn comparable to that produced on its competitors' machines and that its quality was at any rate attributable to features other than the heater. Therefore, in their view, the '375 heater is simply an obvious rearrangement of prior art methods producing no different result.

There are reams of testimony on this issue of extraordinary, nonobvious results, much of it conflicting, but it would unduly prolong this memorandum to analyze in detail this voluminous testimony. The court must therefore content itself with the summary findings that the Throwsters had much the same problems with heat uniformity using the '375 heaters as they did with other commercial heaters, and the extent to which the ARCT machines employing the '375 heater were able to produce uniform yarns of high quality was due largely to the sophisticated electrical controls in the later machines and to the manner in which the heaters on the earlier machines were electrically calibrated. It is clear that defendants cannot rely on any uniformity attributable to the sophisticated electrical controls since these were in fact manufactured and patented by

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another company, Telemechanique, and since the control mechanism is not disclosed or claimed by the '375 patent.

The conclusion is that this patent covers simply an alteration of existing structural components and that in and of itself it is responsible for no non-obvious result.

Level of Skill in the Art.

Defendants seek to impart vitality to the '375 patent by pointing to the low level of skill in the art at the time of the patent application. It is undoubtedly true that very little sophisticated research was going on during this time, with advances being made on the assembly lines by men who were not highly educated in a formal sense. Thus it may be that if any one of these men was singled out and quizzed as to whether the '375 design would have been obvious to him, he would have replied that it was not. However, it is important to keep in mind that the statutory test does not relate to any particular inventor working at a particular time, but rather relates to a hypothetical inventor presumed to have knowledge of all that has gone before. As Judge Widener said in *Blohm & Voss v. Prudential-Grace Lines, Inc.*, 489 F.2d 231 (4th Cir. 1973):

"The inventor who ventures into the art is presumed to know the prior art references. Judge Rich stated it picturesquely when he wrote that the inventor should be imagined as seated in his workshop 'with the prior art references—which he is presumed to know—hanging on the walls around him' *Application of Winslow*, 53 CCPA 1574, 365 F.2d 1017, 1020 (1966)." *Id.* at p. 244.

And by the same token in a case such as this where old elements have been combined to produce an improved re-

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sult, can it not be said that there should be attributed to the hypothetical inventor the combined skills of the inventors of the several components?

In this case, because the defendants are accurate in their portrayal of how research in this area was being carried out, it is highly unlikely that any particular person skilled in the art during this time period had any means of keeping abreast of rapid developments occurring in several countries and reflected in patents issued in several [724] languages.⁵⁹ The statutory test that imputes full knowledge to a person skilled in the art before determining obviousness cuts harshly against arts that are developing informally in remote places, for there is more of a discrepancy between any particular inventor and the statutory model. In this case the fact that the incorporation of previously well known elements into a curbed tube heater did not occur to any particular person prior to Chavanoz's inventors and the further fact that several persons, including one of plaintiffs' own witnesses, testified that it would not have been obvious to them at that particular time, does not establish non-obviousness to the statutory man of skill in the art.

The court has given consideration to defendants' arguments based on the "secondary" considerations of long-felt need, immediate copying and commercial success, but as said by the Second Circuit in the recent case of *Digitronics Corporation v. New York Racing Association, Inc.*, 553 F.2d 740 (1977), at page 748,

⁵⁹ Perhaps the most graphic example of this is the fact that plaintiffs' expert, Mattingly, worked for years in England on developing a magnetic spindle only to conclude in the end that he had discovered nothing after he was shown the Heinze patent for a magnetic spindle which had issued in the United States more than sixty years before.

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"Despite the persuasive advocacy of Judge Learned Hand, *Reiner v. I. Leon Company*, 285 F.2d 501 (2nd Cir. 1960); *Lyon v. Bausch & Lomb Optical Company*, 224 F.2d 530 (2nd Cir. 1955), this view does not represent current law. Any theory that 'secondary' considerations must be given weight before a determination of obviousness can be made was laid to rest in *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282-83, 96 S.Ct. 1532, 47 L.Ed.2d 784 (1976), where Mr. Justice Brennan concluded for a unanimous Court:

'Though doubtless a matter of great convenience, producing a desired result in a cheaper and faster way, and enjoying commercial success, [the invention] "did not produce 'a new or different function'. . . within the test of validity of combination patents." *Anderson's-Black Rock v. Pavement Company*, *supra*, [396 U.S.] at 60, [90 S.Ct. 305]. These desirable benefits "without invention will not make patentability." *Great A & P Tea Company v. Supermarket Corporation*, 340 U.S. [147] at 153, [71 S.Ct. 127, 95 L.Ed. 162].'

" . . . Only in a close case, in which application of the subjective criteria of nonobviousness in 35 U.S.C. § 103 does not produce a firm conclusion, can these objective or secondary considerations be used to "tip the scales in favor of patentability." " *Id.* at p. 748.

And, of course, the court has considered the statutory rule that patents regularly issued enjoy a prima facie presumption of validity, 35 U.S.C. § 282. But this presumption is weakened if not indeed destroyed when it is shown that there existed prior art which the patent office did not consider. *Blumcraft v. Citizens & Southern National Bank*, 407 F.2d 557 (4th Cir. 1969); *Heyl & Patterson v. Mc-*

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Dowell, 317 F.2d 719 (4th Cir. 1963). Plaintiffs here have shown that at least two pieces of prior art, Gilchrist and Belgian '620, more pertinent to the subject invention than that considered was not called to the attention of the Patent Office. *Kalkowski v. Ronco, Inc.*, 424 F.Supp. 343, 352 (N.D.Ill.1976).

In summary, the court is of opinion that in the light of the five patents cited by plaintiffs as prior art, a heater for a false twist machine built according to the teachings of the '375 patent would have been obvious at the time of the invention to a person having ordinary skill in the art. Accordingly, these teachings were unpatentable under 35 U.S.C. § 103 and the patent is invalid for obviousness.

Infringement of the '375 Patent.

If the court is correct in its conclusion that the '375 patent is invalid, the question of infringement becomes moot, for an invalid patent cannot be infringed. *Bendix Corporation v. Balax, Inc.*, 421 F.2d 809 (7th [725] Cir. 1970). For reasons previously stated, however, all issues in the case are being considered and decided.⁶⁰

Defendants as counterclaimants in their suits for damages for infringement have the burden of proof on the issue. They allege quite simply that every ARCT false twist machine sold in this country since 1959 has been equipped with a curved tube heater based on the '375 patent; that all of the plaintiff Throwsters own and operate

⁶⁰ The Supreme Court has counseled the lower courts to decide the validity issue in all patent cases rather than let them go off on the question of infringement because "of the two questions, validity has the greater public importance." *Sinclair & Carroll Company, Inc. v. Interchemical Corporation*, 325 U.S. 327, 330, 65 S.Ct. 1143, 1145, 89 L.Ed. 1644 (1945).

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these machines; and that infringement is therefore established as a matter of law.

Plaintiffs, on the other hand, argue with equal assurance that their ARCT machines do not infringe the '375 patent. This is so, they assert, because the patent, when read as a whole in conjunction with the record of the patent's prosecution as reflected in the file wrapper, claims for the heater a function vital to the operation of all false twist machines, that is, the function of arresting at some point between the heater and the yarn supply package the twist in the yarn as it travels backward from the false twist spindle. Plaintiffs maintain that having claimed the entire false twist machine combination and having disclosed no separate means for arresting the twist, the '375 patent claims this function for the heater itself as evidenced by this language from the specifications:

"The filament after passing through the tube 5 is fed through a false twister 15 which is rotated by suitable means indicated as a belt 16 and is adapted to produce a twist in the filament which feeds back along the filament toward the heating tube 5 until it is arrested by contact of the filament with the surface of such tube." (Column 2, Lines 9-14 of the patent.)

and that each of the claims of the patent covers this function of twist arrest in this language:

"A false twisting device disposed to impart a false twist to the filaments emerging from said tube, whereby the twist feeds along said filaments into the tube and is set therein." (Column 2, Lines 59-62 of the patent.)

But, plaintiffs' argument continues, it is an undeniable fact that the '375 heater does not arrest the twist therein

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and that this court, speaking through Judge Hemphill in an order dated November 14, 1973, has so held:

"It is established by the undisputed evidence and testimony that in the actual use of the ARCT FT machines . . . there is no twist arresting device nor operation which stops the twist in the heater nor is there any heating of a length of yarn in the heater in an untwisted condition. On the contrary, there is undisputed evidence and testimony that in the actual use of these ARCT FT machines . . . the twist which feeds backwardly from the false twist device is not stopped or arrested in the heater, but travels entirely through the heater and on back to the yarn feed rolls, and that the yarn is not heated in an untwisted condition in the heater." *Duplan Corporation v. Deering Milliken, Inc.*, 370 F.Supp. 769, 779 (D.S.C.1973).

Plaintiffs further contend that their argument is bolstered by reference to the file wrapper which discloses that following the first rejection of the patent the solicitor for Chavanoz argued that the feature of twist arrest within the heater distinguished the '375 patent over the prior art cited against it by the examiner in his initial denial.

Plaintiffs therefore conclude that the only compatible construction of the claims, specifications and file wrapper is that the patent claims an apparatus in which the twist is arrested in the heater and that since in fact no ARCT machine involved arrests twist in the heater, the '375 patent, even if valid, is not infringed.

[726] The defendants in a three-point rejoinder argue: First, that the necessity for equipping a false twist machine with some means of stopping the twist before allowing it to

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reach the supply package was well known in the prior art cited in the '375 patent; that the failure to include such an element in the drawing of the patent is attributable to the fact that this is merely a schematic illustration focusing mainly on the heating element; and that any person skilled in the art would automatically know to add the appropriate means for stopping the twist; second, that the examiner did not rely on the statements of the solicitor is demonstrated by his rejection of the '375 application a second time and the failure of the solicitor to press the twist arrest feature in his second set of remarks that immediately preceded the allowance of the patent; and finally, defendants argue that in any event arrest of the twist does not necessarily mean to stop it entirely, and that therefore any marginal arrest of the twist that might occur in the heater, as some experts believe it does, would satisfy the specification of the patent.

The court has concluded that the plaintiffs have the better end of the argument and that they have not infringed the '375 patent.

Essential to the operation of every false twist machine is some means for arresting the twist between the heater and the supply package. Without such means the twist will migrate backward into the supply package causing yarn entanglement, loss of control over the false twist process and eventual breakage. Witnesses for both sides testified to these facts. Also undisputed is the fact that the only means disclosed by the '375 patent for arresting the twist was by "contact of the [yarn] with the surface of such [curved] tube." The claims do not spell this out with the same specificity, using instead the language, "the twist feeds along said filaments into the tube and is set therein."

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In distinguishing the Ancet '011 patent the solicitor for Chavanoz wrote that the contact achieved by the curved tube heater

"... between the filaments and the walls serves as a means for *arresting the twist so that the twist can be confined to the zone of the filament between the false twister and the point of contact with the heated tube.*" (PX 49 at pp. 10-11.) (Emphasis added.)

and in distinguishing the Stoddard '105 patent he said:

"[I]n the Stoddard construction there is no contact between the yarn and the walls of the heated tube. Hence there is no means for *arresting the twist and confining it to the limited length of yarn between the twister and the end of the tube as in the applicants' case.*

• • • • •

"[B]y *arresting the twist by contacting the tube the filaments are heated while in untwisted condition.* This facilitates heat transfer to the multiple filaments." (PX 49 at pp. 11-12.) (Emphasis added.)

It is settled law, of course, that the claims must be construed in the light of the specifications and file wrapper. *Graham v. John Deere Company*, 383 U.S. 1, 33, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966); *Schriber-Schroth Company v. Cleveland Trust Company*, 311 U.S. 211, 61 S.Ct. 235, 85 L.Ed. 132 (1940). When so construed the specifications and claims of the '375 patent together with the file history and the arguments advanced during the course of its prosecution in the Patent Office establish beyond peradventure that an essential feature of the invention and one on which its operability was dependent was its capacity for arresting the twist within the heater. As we have seen, on the ARCT machines operated by the plaintiffs there is "no twist

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arresting device which stops the twist in the heater." 370 F.Supp. at p. 779.

What, then, is the effect of this failure of the invention to perform as advertised? The answer is found in a plethora of cases which hold that even where an "unambiguous" claim may literally read on an accused machine, there may nevertheless [727] be no infringement if there is not real identity of means, operation and result.⁶¹

"[T]here will be no infringement, though the claims of a patent literally happen to read on some physical embodiment, where such physical embodiment does not employ substantially the same means, in substantially the same way, to achieve substantially the same results as that claimed. This rule, sometimes referred to as the inverse doctrine of equivalents, says, in effect, that an incidental infringement is no infringement at all. *Westinghouse v. Boyden Power Brake Company*, 170 U.S. 537 [, 18 S.Ct. 707, 42 L.Ed. 1136] (1898)." Rosenberg, "Patent Law Fundamentals", p. 302 (Clark Boardman Company, Ltd., 1975).

Here the claims of the '375 patent literally read on the ARCT machines, but these machines employ a means not

⁶¹ See, for instance, *Graver Tank & Manufacturing Company v. Linde Air Products Company*, 339 U.S. 605, 608-09, 70 S.Ct. 854, 94 L.Ed. 1097 (1950); *Westinghouse v. Boyden Power Brake Company*, 170 U.S. 537, 18 S.Ct. 707, 42 L.Ed. 1136 (1898); *Marvin Glass & Associates v. Sears, Roebuck & Co.*, 448 F.2d 60, 62 (5th Cir. 1971); *Wilcox Manufacturing Company v. Eastern Gas & Fuel Associates*, 400 F.2d 960 (4th Cir. 1968), cert. denied, 393 U.S. 1051, 89 S.Ct. 691, 21 L.Ed. 2d 693 (1969); *Bowser, Inc. v. Filters, Inc.*, 396 F.2d 296, 297-300 (9th Cir. 1968); *Foster Cathead Company v. Hasha*, 382 F.2d 761, 765-67 (5th Cir. 1967); *Skirow v. Roberts Colonial House, Inc.*, 361 F.2d 388, 391 (7th Cir. 1966); and *Bullard Company v. General Electric Company*, 348 F.2d 985 (4th Cir. 1965).

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present in the patent (feed rolls disposed between the heater and the supply package) to perform the essential function of twist arrest which the patent erroneously claims is performed in the heater itself.

It may be, as defendants argue, that any person skilled in the art would know that he would have to devise some way to arrest the twist in the yarn before it migrated back to the supply package, but the argument is incongruous, for the patent on its face discloses that the twist will be arrested in the heater and that nothing more is required.

In connection with their argument that the examiner did not rely on the solicitor's twist arrest representations defendants complain that the plaintiffs did not produce the examiner as a witness at the trial. But defendants overlook the fact that they had the burden of proof on the issue of infringement, and if they wanted the testimony of the examiner, they should have produced him. At this point the court cannot speculate as to what the examiner had in mind in allowing this patent. Suffice it to say that he had before him the solemn representations of defendants' solicitor, the claims and the specifications to the effect that the indispensable function of twist arrest was accomplished in this invention by the contact of the running yarn against the inner surface of the curved tube heater—representations which are now known not to have been true—and that the patent was allowed while these representations remained uncorrected.

Defendants' final argument to the effect that "twist arrest" as employed in the '375 patent means "partial arrest" or something less than complete twist stoppage must also be rejected. In his order previously referred to Judge Hemphill held that:

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"[T]he patent owner is estopped from giving the term of art, 'arrest the twist', in the patent claims any different meaning than that which appears incontrovertibly clear in the file wrapper. Therefore, this court concludes that there is no genuine issue of fact that the term 'arrest the twist' means 'arrest all the twist' and not 'arrest most of the twist'." 370 F.Supp. 769 at p. 787.

In summary, even if the '375 patent were valid, it is not infringed by the plaintiffs' use of the ARCT machines in which the invention is embodied. This is so because the patent was issued on a false twist apparatus having a curved tube heater which arrests the twist. The heaters on the machines used by the plaintiffs do not do this, and the patent is therefore not infringed.

* * *

In addition to the facts found by the court in its treatment of the '375 patent the [728] court adopts as its own the following proposed findings of fact submitted by the parties on the patent issues:

1. On the question of anticipation: Plaintiffs' proposed findings 6.3.1-6.3.4; 6.3.5. with the exception of the third and fifth sentences; 6.3.7; and 6.3.9.
2. On the question of the application of the *Lincoln Engineering* doctrine: Plaintiffs' proposed findings 6.4.1; 6.4.2; 6.4.4; and 6.4.5.
3. On the question of obviousness: Plaintiffs' proposed findings 6.1.1; 6.5.1.-6.5.4; 6.6.3; 6.6.4; 6.6.6; 6.6.7 except for the last sentence; the first two sentences of 6.7.1; and 6.7.2-6.7.4; and defendants' proposed findings 2; the first three sentences of No. 7; 10; 55-57; 77; 80; and 87.

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4. On the question of infringement, plaintiffs' proposed findings 6.2.1-6.2.6.

Patent No. 2,944,319

The title of this '319 patent is a "Heating Device for Filaments". It was issued to Chavanoz as assignee of the inventor, Henri Crouzet, on July 12, 1960. The invention consists of a removable metal tube of approximately three inches in length which is telescoped into a flanged "sleeve" at the top of the heater tube on a false twist texturing machine. The purpose of the invention is stated in the specifications as follows:

"When synthetic filaments are subjected to high-temperature heat treatment, vapors are generally evolved which usually condense near the top of the heating element at a point where the temperature begins to drop off. This condensation gives rise to a solid deposit which must be removed from time to time.

"With a view to overcoming this drawback, the invention provides a heating element designed for the treatment of textile filaments, and specifically of superpolyamide filaments, which consists of a two-part tubular element. The part located on the side where the filament enters is permanently attached to the machine and constitutes the heating element as such; whereas the part on the side where the filament leaves, located in the temperature region where the vapors condense, is removably mounted."

There follows a reference to the two drawings reproduced below:

[DIAGRAM OMITTED]

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The specifications continue:

"In the drawing:

"Fig. 1 is a longitudinal section of a heating element of the conventional type; and

"Fig. 2 is a similar view of a heating element embodying the invention.

"Referring first to Fig. 1, a heating element of the conventional type consists of a tube 2 fitted with terminals 11 permitting it to be connected to an electrical circuit for heating purposes.

"In the unheated part of the tube 2, that is, in the region where the temperature begins to fall off, solid deposits 4 form, caused by condensation of the vapors which are evolved in the course of the heat treatment of the filament passing through the tube.

"Fig. 2 shows a heating element embodying the invention. Said element consists of a lower tube 5 carrying at its upper end a conical sleeve 6 into which there is removably set a short tube 7 that forms an extension of tube 5 and is held in place in the upper part of said conical [729] sleeve by an insulating ring 8. Terminals 12 located on the lower part of tube 5 and also near the upper conical sleeve 6 permit the heating element to be connected to a source of heating current.

"As may be seen from Fig. 2, the deposits due to condensation of the vapors that are evolved during the heat-treatment of the filament which passes through the heating element will form in the upper tube 7 on the level of line A-A (sic, ostensibly "A-B"), in the region where the temperature drops."

And the virtue ascribed to the invention is stated thus:

"In view of the ease with which tube 7 can be removed, it is evident that the downtime of the machine for

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the removal of deposits 10 caused by condensation is reduced to a minimum. Actually, all that need be done is to remove tube 7 of each element and replace it with an identical tube free of deposits, which only takes a moment. The cleaning of the encrusted tube 7 is then done outside of the machine, in a caustic soda bath, for example."

From the drawing shown above it will be observed that condensation of vapors generated by the texturing process takes place at the same point and in the same amount in each of the two figures. It is evident, therefore, that the real problem sought to be solved by this invention initially was the difficulty in cleaning the top portion of the heater tubes where residue from the heated yarn vapors inevitably collected. As stated in the specifications, if allowed to collect in the removable tube insert, obviously this residue could be more easily and efficiently removed.

Originally the application contained three claims all of which were rejected by the examiner. Only in claim 3 was there mention of "insulating means". That claim stated that the sleeve holding the removable tube should have "insulating means . . . adapted to support said second tube." But no particular virtue was attributed to "insulating means" except as it functioned to provide support for the removable tube insert.

In rejecting all three claims the examiner, citing three patent references, stated that removable tubes were well known in the prior art and that "it appears obvious that, should condensation products form in these extended sections, they could be removed and cleaned without exercising inventive reasoning."

The solicitor apparently acquiesced in this rejection, for he cancelled the original three claims and applied for a

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patent on a new claim which is the one that ultimately issued. That claim reads as follows:

"Apparatus for the treatment of textile filaments comprising a fixed tube having a substantial vertical axis, means heating said tube to a temperature suited for the treatment of said filaments, a sleeve disposed at the upper end of said tube and a second tube removably mounted in said sleeve in axial alignment with said first tube, said sleeve having heat-insulating means to retard the transfer of heat from said first tube to said second tube whereby condensation of vapors rising from said first tube may take place on the walls of said second tube, and means feeding a textile filament for treatment upwardly through said tubes."

The difference in the cancelled claims and the claim that issued as the '319 patent is the requirement that the sleeve holding the removable tube have "heat-insulating means to retard the transfer of heat from said first tube to said second tube", and in prosecuting this new claim the solicitor undertook to distinguish the prior art cited by the examiner by pointing out that the removable tubes in the prior art patents did not disclose heat insulation. He further represented that without such insulation "between the tubes" cooling and condensation of vapors in the removable tube would not take place.

Shortly thereafter the patent was granted without further ado, and the inference is inescapable that the shift of emphasis in the prosecution of the patent from the claimed improved accessibility of the removable tube for cleaning purposes to the advantages [730] ascribed to the heat insulating means in retarding the transfer of heat between the two tubes tipped the scales in favor of patentability.

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All of this was accomplished without material alteration or amendment of the original specifications.

Plaintiffs have mounted a three-pronged attack on the '319 patent. They argue first, that it is void for obviousness; second, that they have not infringed the patent; and third, that in any event it is unenforceable because certain statements made by the solicitor to the Patent Office concerning the effect of the heat transfer retardation attributable to the insulating means were admittedly false.

1. *Obviousness.* In support of their argument on obviousness the plaintiffs do not rely on any prior art other than that disclosed in the file wrapper of the patent (PX 56). Thus the only Section 103 question left for decision is whether in view of simple, universally known scientific principles the subject matter of the '319 patent "would have been obvious at the time the invention was made to a person having ordinary skill in the art." The court has concluded that it would and that the patent is void for obviousness.⁶²

At the time this patent issued it was well known that condensation occurred in the top of heater tubes on false twist machines because the top, being exposed to the open air, was necessarily cooler. And, of course, it is universally known that insulating an object from a heat source serves to keep it cooler. Given these two simple, indisputable facts, the court has no difficulty in holding that any man of ordi-

⁶² In reaching this conclusion the court has given thought to the usual secondary considerations urged by defendants, that is, long-felt need, commercial success and solution of earlier problems (see defendants' proposed findings of fact hereinafter adopted), but it is settled that these factors are not controlling where there is lack of invention. *Kamei-Autokomfort v. Eurasian Automotive Products*, 553 F.2d 603, 606 (9th Cir. 1977).

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nary skill in the art would have known by insulating the removable insert tube its efficiency as a condenser could easily have been enhanced.⁶³

2. *Infringement.* On the issue of infringement plaintiffs argue initially that on the machines they use there is no insulation at all between the bottom of the insert tube and the heater tube proper at the place they come together.⁶⁴ Thus they say that the portion of the patent's claim which states "a sleeve disposed at the upper end of said tube and a second tube removably mounted in said sleeve in axial alignment with said first tube, said sleeve having heat-insulating means to retard the transfer of heat from said first tube to said second tube" does not read on their machines.

Defendants counter with the argument that the sleeve referred to in the claim is part and parcel of the first tube referred to; that on all ARCT machines there is a one-half inch T-shaped rubber or bakelite grommet which fits in the top of the sleeve and through which the removable tube is inserted; and that this grommet serves as the "heat insulation means" required by the claim.⁶⁵ Additionally, defendants contend that the air space between the inside of the

⁶³ It is interesting to note that ARCT apparently attributed very little merit to this invention by its president, Henri Crouzet, either as an aid to cleaning heater tubes or as producing greater condensation in the removable tube insert. It employed the device only on its earlier model machines and thereafter discontinued its use altogether. Only the plaintiffs, Burlington Industries, Inc., and Schwartzenbach-Huber, who were continuing to use some of the earlier models at the time of the trial, were charged with infringement of the '319 patent.

⁶⁴ In Figure 2 in the drawings this is the point where the "Z" hatch marks on the heater tube end and the "S" hatch marks on the insert tube begin.

⁶⁵ This is the "insulating ring" referred to in the patent. See "Figure 8" in Figure 2 of the drawings.

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sleeve and the outside of the insert tube serves as a "heat insulating means" satisfying the claims' requirements.

To all this the plaintiffs rejoin that the grommet serves no purpose other than to [731] stabilize the insert tube within the sleeve and to keep it from flapping against the inner walls of the sleeve; that it has no heat insulating qualities at all; and that nowhere in the patent is there any mention of the air space as a heat-insulating means.

The court is of opinion that the defendants are correct in their assertion that the sleeve is a part of the heater tube and that the admitted fact that there is no insulation at the point where the bottom of the insert tube comes in contact with the heater tube cannot avail the plaintiffs. At the same time the court rejects the defendants' argument that the air space between the sleeve and the insert tube is a heat-insulating means, this argument being, in the court's opinion, a mere afterthought nowhere hinted at in the patent itself.

This leaves for consideration the question of whether the grommet constitutes a "heat insulating means". While plaintiffs had an expert to conduct an experiment which showed there was no appreciable difference between the temperature of the heater tube below the insert tube and the insert tube itself, neither party apparently conducted any tests to show temperature comparisons between the sleeve and the insert tube, and the record is without technical evidence as to whether the insert tube is actually cooler than the sleeve with the grommet in place than it is without it.⁶⁶

⁶⁶ While there is testimony from defendants' expert (Tr. 54, pp. 10,615-18) that the ring performs this function, and other testimony

(footnote continued on following page)

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Common sense would seem to dictate that if there is any such difference, it is de minimis. It is just not reasonable that this hard rubber ring extending not more than a half inch down into the sleeve could impede by any appreciable amount heat transfer between the sleeve and the insert tube sufficient to cause increased condensation of the vapors at that point. In fact, the patent itself describes the function of this "insulating ring" as that of holding the insert tube in place in the conical sleeve.

The defendants have not sustained their burden of proving infringement of the '319 patent by the parties so charged.

3. *Enforceability of the '319 Patent.* Even if the patent were held valid and infringed, plaintiffs contend that because of an admitted misrepresentation made to the Patent Office by the solicitor for the inventor in his response to the rejection of all the claims in the patent as originally filed, the patent is not enforceable under controlling equitable principles. The statements in question appear at page 10 of the file wrapper (PX 56) and read as follows:

"The Ferre and Dickie patents show an apparatus for drying a coating on a wire. These patents do not disclose apparatus having a structure defined in the present claim wherein a removable upper tube is mounted in a sleeve or socket at the end of a heating

(footnote continued from preceding page)

that the FT-1 and FTF machines were always shipped with these rings in place and that replacements were periodically made available (Tr. 70, pp. 13,541-42), there is equally probative testimony by a witness for plaintiffs that these rings burned up and disintegrated quickly after the machines were in operation (Tr. 70, p. 13,592), and that their chief function was not to insulate but rather to provide support for the insert tube (Tr. 8, pp. 1595-96).

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tube and is heat-insulated. Without this heat-insulation between the tubes, the cooling and condensation of the vapors would not take place prior to their discharge into the air. The Ferre and Dickie apparatus shows no means for controlling the relative heating and cooling as above stated. (Underlining added.)

“Likewise the Kunzle patent fails to show a combination of heated and unheated tubes with the unheated tube heat-insulated and removable as defined in the present claims. While Kunzle discloses a pair of aligned tubes, there is no control of the heating and cooling to insure that the vapors will deposit on the walls of the second tube. This requires the combination of a heated first tube and a heat-insulated second tube.”

In his deposition testimony the inventor, Crouzet, after first acknowledging that the portion of the statement underlined above was false (Tr. 5, p. 961), later in his response to a question by his own counsel [732] modified his testimony to say that this statement was “inaccurate” (Tr. 5, p. 965).

Defendants contend that the solicitor’s statement should not be given its clear and obvious meaning for that the drawings and specifications already on file disclose that vapors regularly condensed in the upper portions of the heaters without the aid of the invention of this patent. They point out that the first paragraph of the specifications states that “vapors are generally evolved which usually condense near the top of the heating element at a point where the temperature begins to drop off”. Furthermore, the drawing submitted with the original application show the accumulation of condensed vapors in the upper portion of a one-piece tubular heater. Therefore, they assert that the statements

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of the solicitor must be interpreted as meaning only that this invention would cause *additional* condensation over that which would normally be expected to occur.

Although this appears to be another example of a patent solicitor’s willingness in pre-*Lear v. Atkins*⁶⁷ days to say whatever was necessary to obtain allowance of a patent, it is difficult to conclude from the disclosures in the overall application that the examiner was in fact misled. Presumably he was familiar with the proposed specifications and drawings and would have interpreted the remarks of the solicitor in their light. *Penn Yan Boats, Inc. v. Sea Lark Boats, Inc.*, 359 F.Supp. 948, 955 (S.D.Fla. 1972). While the court believes the representations were intentionally made, it cannot be concluded on this evidence that the patent would not have issued except for these misstatements. Therefore, the patent cannot be invalidated for fraud in its procurement.

But the law is that

“Even though misrepresentations made to the Patent Office are not legally material to the issuance of a patent, nevertheless, this Court, being a court of equity, can and should refuse to enforce the patent if the Court finds the patentee made intentional misrepresentations to the patent examiner, i.e., if the patentee came into the court with unclean hands. The proceeding before the patent examiner is ex parte and an examiner has no way, in many cases, to ascertain the truthfulness of the representations made to him. Necessarily he must rely on the good faith of the applicant. Absolute honesty and good faith disclosure is necessary.” *Corning Glass Works v. Anchor Hocking Glass Corporation*, 253 F.Supp.

⁶⁷ 395 U.S. 653, 89 S.Ct. 1902, 23 L.Ed. 2d 610 (1969).

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461, 470 (D.Del. 1966), *reversed on other grounds*, 374 F.2d 473 (3rd Cir. 1967), *cert. denied*, 389 U.S. 826, 88 S.Ct. 65, 19 L.Ed. 2d 80 (1967).

Application of these principles, which have been widely accepted by the courts, *see Precision Instrument Manufacturing Company v. Automotive Maintenance Machinery Company*, 324 U.S. 806, 65 S.Ct. 993, 89 L.Ed. 1381 (1945); *SCM Corporation v. Radio Corporation of America*, 318 F.Supp. 433, 449 (S.D.N.Y.1970); *Jack Winter, Inc. v. Koratron Company, Inc.*, 375 F.Supp. 1, 49 (N.D.Cal. 1974); and *Penn Yan Boats, supra*, at p. 968, has led the court to the conclusion that regardless of its validity or infringement, the '319 patent is not enforceable. Whether or not the examiner was actually misled by the statement, the inventor admitted that it was not true, and at best the court finds that it was made with careless disregard for its accuracy. Furthermore, the statement was not made with regard to some minor advantage of the invention but instead was the only argument advanced by the solicitor to distinguish the '319 invention from the prior art. Any doubt as to whether the examiner was misled should be resolved against the inventor. *SCM Corporation, supra*.

In summary, the court holds that the '319 patent is invalid for obviousness: that even if valid the plaintiffs, Burlington and Schwanenbach-Huber, have not infringed it; and that in any event the patent is not enforceable because of the admitted material misrepresentations made by the inventor's attorney to the Patent Office.

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[733] In addition to the facts found by the court in its treatment of the '319 patent the court adopts as its own the following proposed findings of fact submitted by the parties on the patent issues:

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1. On the issue of obviousness: plaintiffs' proposed finding of fact 7.4.3; defendants' proposed findings of fact 1-20, 23, 26, 27 and 29.

2. On the issue of infringement: plaintiffs' proposed findings of fact 7.3.1 and 7.3.3 (last two sentences); defendants' proposed findings of fact 33, 34, 36-38, 43, 44 and 46-54.

3. On the issue of enforceability: plaintiffs' proposed findings of fact 7.1.1 and 7.2.3-7.2.5.

Patent No. 3,012,397

United States Patent No. 3,012,397 (Polyester Process) was issued to Chavanoz on December 12, 1961 upon application filed on November 30, 1959 by Henri Servage, then a Chavanoz employee. The patent asserts fourteen claims for methods for producing high bulk polyacrylonitrile, acrylonitrile copolymer, and polyester yarns. Only claims 9 through 11 are at issue in this case.

Claim 9 involves the following steps: (a) false twisting and permitting filament heat shrinkage of the yarn; (b) overfeeding and "mechanically spatially shrinking" the yarn 5 to 12% subsequent to the first heat shrinkage; and (c) then subjecting the yarn to a subsequent heat treatment while under "substantially no appreciable tension." Claim 10 relates to claim 9 when the filament heat shrinkage during the false twist step is in the range of 0.5 to 2%. Claim 11 relates to claim 9 when the yarn is subjected to a subsequent heat treatment in a continuous or double heater process.

As discussed in the specifications, the '397 patent relates to a process for texturing continuous filament yarns from polyester and acrylic fibers to produce what is known

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as a "high bulk" textured product by means of an additional heating of the yarn after the false twist step. Fundamentally, the process consists of a specific range of combined conditions to be effected during the false-twisting and subsequent heating steps. It instructs one to work in this range to get the sought-after results, namely bulk, defined as curl and increased volume.

The first condition to be observed is to permit filament heat shrinkage of the yarn, for example on the order of 0.5 to 2% during the false-twisting step. After false-twisting the yarn is next put into a condition where it experiences a mechanical shrinkage of 5 to 12% and is given a second heat treatment, which treatment is in accordance with the teachings of the French Third Patent of Addition No. 67,751 (PX 637-1799). The second heat treatment is carried out either on the take-up package in a later step (a discontinuous process) or on a double heater false twist machine as the yarn proceeds to the take-up package through a second heater (a continuous process). Comprehending each of these alternatives, the patent specifies overfeeding⁶⁸ the yarn under controlled conditions, specifically 5 to 12% mechanical shrinkage, and giving it a second heat treatment while the yarn is under "substantially no appreciable tension." Plaintiff Throwsters have asserted that this patent is not infringed, is invalid for lack of novelty or for obviousness (35 U.S.C. §§ 102 and 103), and is invalid for indefiniteness (35 U.S.C. § 112). Defendants, of course, assert that the patent is

⁶⁸ "Overfeed" is defined as "a device that feeds yarn continuously to a winding mechanism, the linear speed of the yarn through the feeding device being greater than the linear speed of the yarn taken up by the winding mechanism." Hathorne, "Woven Stretch and Textured Fibers," p. 5.

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both valid and infringed. Each position will be discussed below.

Infringement of the '397 Patent.

For purposes of deciding the infringement issue, the court will assume the validity of the '397 patent. The burden of proof of infringement is on the defendants (patentees and licensors).

[734] Plaintiff Throwsters' essential argument on non-infringement focuses on the fact that the '397 patent requires a second heat treatment while the yarn is in a state of "substantially no appreciable tension." The Throwsters submit that they have processed polyester at overfeeds of from 10 to 16% in the second heater which has produced tension on the yarn of from 2 to 3 grams. They assert that this tension is low, but is nonetheless appreciable and tends to elongate or straighten the yarn somewhat while it is being heated. Thus, the resultant yarn would display characteristics of reduced curl and stretch rather than the increased curl or bulk as promised by the '397 patent.

The phrase "substantially no appreciable tension" is not defined specifically in the patent. If a discontinuous process is utilized, the patent indicates that the requisite state of tension can be obtained by heating the yarn while in skein form by placing the skeins in an oven at moderate temperature. If a continuous process is utilized, the patent simply states that the second heat treatment should be under no appreciable tension "as by overfeed of the yarn through this heating zone."

The tension of the yarn as it is subjected to a second heat treatment is in each case determined by the amount of overfeed. The higher the overfeed, the lower the ten-

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sion on the yarn. Plaintiffs have asserted that the "no appreciable tension" requirement requires overfeeds substantially above the 10 to 16% overfeeds practiced in their specifications and that the tension should be closer to zero than the 2 to 3 grams tension obtained in their processes. Defendants simply say that the disputed phrase is a common sense term and that one simply overfeeds in the second heat zone to obtain a low rate of tension such as the 2 to 3-gram figure mentioned by plaintiffs.

The court concludes that a fair reading of the patent would not require one of ordinary skill in the art to overfeed the yarn at rates substantially above those run by the plaintiffs. At various points the patent speaks in terms of overfeeds and shrinkages of from 5 to 12% and there is no way that overfeeds of this magnitude could yield the "approaching zero" gram tensions that plaintiffs indicate the patent requires. A fair reading of the patent requires one to overfeed so as to obtain a low tension, substantially less than the tension in the first heating and false-twisting zone. Accordingly, plaintiffs' argument of non-infringement is rejected and evidence that the Throwsters ran processes yielding from 2 to 3 grams of tension establishes infringement.

An alternative argument made by plaintiffs for non-infringement is more appropriately considered as an attack on the patent's validity. Essentially, plaintiffs argue that the processes they used were those disclosed in the prior art and not those taught in the '397 patent. They specifically deny their infringement in utilizing defendants' "novel" step of mechanical spatial shrinkage. For present purposes, the validity of the '397 patent is assumed. Accordingly, if valid, the defendants have established that proc-

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esses run by the plaintiffs in treating polyester yarns have infringed the '397 patent.

Validity: Anticipation or Obviousness.

In the course of this trial approximately forty patents were cited to the court as prior art to be considered in evaluating the validity of the '397 patent. A strong case has been presented that several of these patents, particularly Scragg United States Patent No. 3,472,011 and Klein and Evans United States Patent No. 2,977,746, anticipated the '397 patent. Anticipation, however, is a narrow, technical defense, requiring a showing of virtual identity between the patent in question and a specific prior art device. *E.g. Diversified Products Corporation v. Sport Stores*, 294 F.Supp. 375 (D.C.Md. 1968). By comparison, obviousness is intended to be a demanding standard where the court looks at the whole of the prior art in considering it together for all that was disclosed therein. *Graham v. John Deere Company*, 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966). The court has determined that it is not necessary to decide [735] the issue of anticipation under Section 102 since the '397 patent is invalid for obviousness in light of the teachings of the prior art.

As we have seen, in evaluating obviousness under Section 103 the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be entertained, and the level of ordinary skill in the pertinent art is to be resolved. In resolving the level of skill inquiry, the court finds that in the fall of 1959, it was within the skill of persons of ordinary skill in the art of processing thermoplastic yarns to vary the amount of overfeed through the second heater, depending on the nature and denier of the yarns being

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processed, in order to obtain the desired characteristics of the end product. There was a great interest in discovering an effective method for processing set polyester. This natural progression in the art resulted in a number of patent applications being filed by Heberlein, Chavanoz, DMRC, Leeson and Scragg in the mid to late 1950's all relating to post-treatment of crimped yarns by overfeeding and heating under controlled conditions.

The court will not analyze all the prior art cited against the '397 patent, but will summarize the more relevant prior art and adopt proposed findings as to the remainder.

The three most relevant patents contained in the prior art were Scragg United States Patent No. 3,472,011; Klein and Evans (DMRC) United States Patent No. 2,977,746; and Seem and Stoddard Australian Patent No. 219,270. The Scragg '011 patent was filed in July of 1958 and corresponds to French Patent No. 1,199,764 which was available to the public on July 23, 1959. It covers a double heater false-twisting system for processing thermoplastic yarns. The patent discloses overfeeding yarn through the false twist zone of the first heater to permit shrinkage of the yarn, a shrinkage of 2% being indicated as suitable. It also teaches overfeeding in the second heat zone, said heat zone being at a lower temperature than the first, and specifically suggests overfeeding on the order of 20% or less.

The Klein and Evans Patent No. 2,977,746 was filed in June of 1958 and issued on April 4, 1961. It is a DMRC patent dealing with a method for thermally treating thermoplastic yarns and post-treating elasticized yarns, with polyester and nylon being specifically mentioned. Although the patent is concerned primarily with an edge-crimping

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process, interestingly it discloses that the elastic nature can be imparted to thermoplastic yarns by several well-known processes including uptwisting or downtwisting or using a false-twisting apparatus.⁶⁹

Australian Patent No. 219,270 was published on May 29, 1958, over a year prior to the filing of the '397 patent, and discloses apparatus and methods for re-processing torque stretched yarns by the false twist process. The '270 patent teaches that tension on the yarn as it passes through the first heater of a false twist machine can be controlled by underfeeding or overfeeding the yarn. This patent has been described as an encyclopedia on false-twisting yarns by a second heater treatment. It teaches that characteristics of yarn may be modified by regulating the tension on the yarn after it has been false-twisted or by subjecting it to a second heat treatment or by a combination of both. According to the patent, tension is a function of overfeed and a full range of tensions can be obtained by overfeeding in the second heat treatment, which may be applied continuously or discontinuously. Finally, the '270 teaches that a wide range of end products (varying in degree of stretch or curl or bulk) can be obtained by varying the tension of the yarn as it is subjected to the second heat treatment.

[736] Various other items of prior art have been presented to the court. These include United States Patent No. 2,761,272 (Chavanoz) disclosing that transmission ratios

⁶⁹ At Column 1, Line 47, the patent states "... but in this specification no distinction is made between yarns processed with the different types of twisting apparatus, and all such yarns are referred to as 'torque elasticized' yarns." It also discloses that an overfeed of from 5 to 20% generally gives the best results in performing the thermal post-treatment operation on torque elasticized (false twist) yarns (Column 12, Lines 21-30).

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between the feeding and take-up devices may be selected to permit any desired, shrinkage; United States Patent No. 2,987,869 (DMRC) disclosing that elasticity or activity of yarns can be increased by low tension heat treatment; United States Patent No. 3,131,528 (Scragg) disclosing overfeeding the yarn (permitting filament shrinkage) in the false twist zone and overfeeding through a second heater at a rate of 30 to 40%; United States Patent No. 3,017,685 (Heberlein) disclosing a continuous second heater process with the use of low tension; .05 to .2 grams in the second heater; and United States Patent No. 2,919,534 (DMRC) disclosing apparatus and processes for subjecting crimped yarns (both twist and edge-crimped) to a subsequent heat treatment. Finally, the prior art also included commercial marketing by Leesona in 1957 through 1959 of a 511 attachment for post-treating yarns by the SAABA process. Although the SAABA process called for stretching rather than overfeeding the yarn in the first heater, the process did call for overfeeds through the second heater.

None of the foregoing prior art was cited to the patent examiner during the prosecution of the '397 patent. The court finds this art. to be more pertinent than the art disclosed or cited by the patent examiner in the prosecution of the '397 patent. According to the law of this Circuit, the presumption of the validity of a patent is weakened or destroyed where there has been a failure to consider and to cite the most pertinent prior art. *Heyl & Patterson v. McDowell*, 317 F.2d 719 (4th Cir. 1963).

Defendants attempt to distinguish the '397 process patent from the foregoing prior art. It is argued that the '397 is not a patent for overfeeding or for giving a second heat treatment. Instead, it is asserted to be a narrow process patent teaching one to permit filament heat shrinkage in

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the first heater zone, and then to put the yarn in a condition of 5 to 12% mechanical spatial shrinkage and to set it there. Defendants' position regarding the concept of "mechanical spatial" shrinkage is central to their argument on patent validity. This concept will be more fully discussed later in the section on indefiniteness. For present purposes, it is sufficient to note that yarn shrinkage is inherent when one overfeeds a previously false-twisted yarn through a heated zone. Total shrinkage is directly related to the amount of overfeed. In fact, in the discontinuous process, defendants admit that "mechanical" shrinkage in the yarn is equal to the net overfeed onto the take-up package.

Prior art had disclosed both overfeeding in the false-twisting zone and overfeeding prior to or during a second heat treatment of polyester or other thermoplastic yarns. Defendants attempt to distinguish this prior art, and particularly the Australian '270 "encyclopedia" patent, as being so broad as to be worthless; whereas, the '397 patent allegedly teaches quickly how to obtain high bulk yarn. Had the '270 patent comprised the whole of the relevant prior art, the court would be more sympathetic to this argument. The art, however, was not stagnant and continued to progress with further refinements of the optimum range of working conditions. The Scragg '011 patent and the Klein '746 patent disclosed overfeeds of 20% or less in the second heater. Defendants' expert, Mr. Platt, admitted on cross-examination that overfeeding on the order of 20% or less would produce mechanical or spatial shrinkage in the range of 5 to 12%. Defendants assert that the '397 patent further minimized, although it did not eliminate, the trial and error necessary to obtain high bulk polyester yarns by narrowing the range of optimum working conditions from less than 20% overfeed to overfeeding and

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mechanically spatially shrinking in the range of 5 to 12%. Even assuming that the '397 teachings were a further refinement on the prior art's disclosures of less than 20% overfeed, the court finds that this was not a patentable refinement. It is not inventive to point out a particular range of conditions or optimum working ranges if what is involved is [737] nothing more than the skill of the mechanic and the exercise of "patient experimentation." *American Potato Dryers v. Peters*, 184 F.2d 165 (4th Cir. 1950); *Triumph Hosiery Mills v. Alamance Industries*, 299 F.2d 793 (4th Cir. 1962). A patentee simply cannot designate a range in a known progression and maintain a monopoly on processes within that range on the ground that it produces optimum results.

The court's inquiry must focus on whether a skilled artisan, with knowledge of the prior art, would require more than ordinary skill to discover the '397 process. The court finds that it would not. Accordingly, the court holds that the subject matter of the claims of the '397 patent would have been obvious to a person of ordinary skill in the art prior to November of 1959 in view of the teachings of the Australian Seem and Stoddard '270 patent either alone or in combination with any one of the following:

(a) commercial use of the 511 attachment and the SAABA process disclosed in the '270 patent;

(b) the Chavanoz Third Patent of Addition;

(c) the Scragg '011 patent;

(d) the disclosures of Messrs. Klein, Evans and Bolinger in any one of the several DMRC-Chavanoz patents and applications relating to post-treating thermoplastic yarns; and

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(e) either Heberlein British Patent No. 710,802 or United States Patent No. 3,017,685.

35 U.S.C. § 112: Indefiniteness.

Defendants have asserted at trial that the '397 is not a patent concerned merely with overfeeding or with second heat treatments for polyester yarns. Central to defendants' position on patent validity is the novel concept of mechanical spatial shrinkage. Claim 9 requires the step of overfeeding and mechanically spatially shrinking the yarn approximately 5 to 12%. In a discontinuous process, defendants admit that mechanical spatial shrinkage is equal to overfeed. However, in a continuous double heater process, the equation is more complicated since the yarn is shrinking both as a result of being relaxed and also as a result of the filament heat shrinkage. In this latter situation, defendants submit that mechanical spatial shrinkage is equal to overfeed minus heat shrinkage.

This definition of mechanical spatial shrinkage ("MS") was developed at trial. The patent itself provides no definition of mechanical spatial shrinkage. The term overfeeding is a term commonly used in the art while the terminology "mechanical spatial shrinkage" is not. Defendants' expert, Mr. Platt, admitted that no one in the art thought in terms of mechanical spatial shrinkage in 1959. The terminology "mechanical spatial shrinkage" does not appear in any of the thousands of documents, specifications or processing data produced in this litigation, other than the '397 patent papers. There is no evidence that the art was swept into a tide of commercial production of polyester once the range of 5 to 12% mechanical spatial shrinkage was disclosed by the '397 patent. Instead, as evidenced by the specifications and processing data produced at trial, Throw-

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sters continued to think in terms of overfeeding and of modifying overfeeds, temperatures, and yarn deniers to get the end product yarn characteristics that were sought.

The '397 patent provides no definition of what mechanical spatial shrinkage is, how to determine it, how to measure it, or how to set up a machine to obtain it. At trial, no witness was able to determine whether a given processing specification would infringe the '397 patent without resorting to a series of complex tests developed by defendants' expert, Mr. Platt, which purported to delineate shrinkage resulting from relaxing the yarn by overfeeding from shrinkage resulting from heat.

Plaintiff Throwsters generally processed polyester yarns on ARCT double heater machines with common rates of overfeed from 10 to 16%, and more recently from 18 to 20%. In the absence of further definition and explanation in the patent, there was no reliable way for a Throwster to insure that [738] he was operating outside the patent range of 5 to 12% mechanical spatial shrinkage. Mr. Platt testified that a Throwster using prior art disclosures of overfeeds of 20% or less could have processing specifications which would infringe the '397 patent. In fact, in two of Mr. Platt's tests, Nos. 211 and 230, it was discovered that the same rate of overfeed in the first and second heat zones resulted in different MS calculations, one within and the other outside the patent range. Further, according to test 237, a Throwster running Dupont polyester yarn would have MS calculations outside the patent range. Yet, if the Throwsters switched to an Enka yarn and ran the machine with the same deniers, temperatures, and overfeeds, there would result an MS calculation within the patent range. The court agrees with the plaintiffs that

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the patent law does not require alleged infringers to play this type of Russian roulette.

The law on indefiniteness is explained in two Supreme Court opinions, *United Carbon Company v. Binney Company*, 317 U.S. 228, 63 S.Ct. 165, 87 L.Ed. 232 (1942), and *General Electric Company v. Wabash Appliance Corporation*, 304 U.S. 364, 58 S.Ct. 899, 82 L.Ed. 1402 (1938). In *General Electric* at page 369, 58 S.Ct. at page 901 the court stated:

"Patents, whether basic or for improvements must comply accurately and precisely with the statutory requirements as to claims of invention or discovery. The limits of a patent must be known for the protection of the patentee, the encouragement of the inventive genius of others and the assurance that the subject of the patent will be dedicated ultimately to the public. The statute seeks to guard against unreasonable advantages to the patentee and disadvantages to others arising from uncertainty as to their rights. The inventor must 'inform the public during the life of the patent of the limits of the monopoly asserted, so that it may be known which features may be safely used or manufactured without a license and which may not.' The claims 'measure the invention' . . . In a limited field the variant must be clearly defined."

In *United Carbon, supra*, 317 U.S. at page 232, 63 S.Ct. at page 168, the court stated:

"The courts in determining the questions of invention and infringement brought to them by respondent, no less than the parties-litigant, need and may insist upon the precision enjoined by the statute. To sustain claims so indefinite as not to give the notice required by the statute would be in direct con-

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travention of the public interest which Congress therein recognized and sought to protect.”

To the extent that the '397 patent is distinguishable from the prior art on the basis of the novel disclosures relating to mechanical spatial shrinkage, the patent is void for indefiniteness. The patent fails to meet the standards of definiteness described by the Supreme Court in *United Carbon* and *General Electric* and established by 35 U.S.C. § 112. The patentee simply failed to inform the public of the limits of his monopoly with the result that those producing the yarns could never know which processes could be safely used without a license and which could not. The patent is void for indefiniteness under 35 U.S.C. § 112.

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In addition to the facts found by the court in its treatment of the '397 patent the court adopts as its own the following proposed findings of fact submitted by the parties on the patent issues:

1. On the issue of infringement: plaintiffs' proposed findings 8.3.1-8.3.3 inclusive; 8.3.4 with the exception of the sixth sentence; 8.3.5; 8.3.6 with the exception of the first, second and ninth sentences; 8.3.7; and 8.3.8.

Defendants' proposed findings Nos. X-98-101 inclusive and X-103-106 inclusive.

2. On the issue of validity: plaintiffs' proposed findings 8.4.1; 8.5.1-8.5.5 inclusive; 8.5.6, with the exception of the statement in parenthesis; 8.5.7; 8.5.9; 8.5.10; 8.5.12; 8.5.13, with the exception of the last sentence; 8.5.14-8.5.17 inclusive; 8.5.19; [739] 8.5.20; 8.5.22-8.5.27, 8.5.29, with the exception of the first sentence; 8.5.30; 8.5.31; and 8.5.36.

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Defendants' proposed findings X-1, X-2, X-6, X-10, X-12, X-13, X-28 with the exception of the last two sentences, X-49 and X-94.

Patent No. 3,123,973

United States Patent No. 3,123,973 was issued on March 10, 1964, to Chavanoz as assignee of the inventor, Henri Servage, upon application filed November 30, 1959. No claim for priority based on any earlier filed foreign patent was asserted. The earliest date of invention to which the '973 patent can be entitled is November 30, 1959.

The '973 patent is a process for texturing continuous filament cellulosic based yarns, particularly cellulose acetate yarns. The patent application had a long and contorted history spanning four and a half years during which the application was rejected on six occasions. The claims were continually narrowed to meet objections raised by the patent examiner and eventually six claims were allowed. Claim 4 of the '973 patent, which refers to a process wherein the yarn is allowed to shrink by up to 6% as it is wound into a package, was formally disclaimed by Chavanoz pursuant to 35 U.S.C. § 261 after the commencement of trial. The remaining five claims either expressly or by reason of dependency require the following steps: (a) false twisting a yarn having a cellulosic base; (b) winding the yarn onto a package under conditions permitting the yarn to undergo “considerable shrinkage;” and (c) subjecting the yarn to a second heat treatment at the temperature of 75 to 85° centigrade in the presence of steam while the yarn is “substantially free from tension.”

This process patent has been attacked as invalid on several grounds, including lack of novelty, obviousness and indefiniteness. It is also asserted that, even if valid, the patent is not infringed. Each position will be considered.

Validity: Anticipation and Obviousness.

Plaintiffs have asserted that two prior art patents issued to Donald Finlayson anticipate the '973 patent. The first Finlayson patent is British Patent No. 464,981 which was issued in 1937. The second is United States Patent No. 2,174,573 which was issued on October 3, 1939. Without discussing these patents extensively at this time, the court notes that neither of these prior art patents taught a heat treatment of acetate yarn after false twisting at a temperature of 75 to 85° centigrade in the presence of steam. As indicated previously, the courts have construed anticipation as a narrow defense and, since the Finlayson patents do not specifically disclose the optimum range of temperatures disclosed in '973, there is no strict anticipation. See *National Lead v. Western Lead*, 324 F.2d 539 (9th Cir. 1963).

Even though there is no strict anticipation, the Finlayson patents, when considered with the other prior art, may render the patent void for obviousness. The scope and content of the prior art must therefore be determined, the differences between the prior art and the patent claims must be entertained, and the level of ordinary skill in the art must be resolved.

A prime source of knowledge of the prior art is found in the file wrapper of the '973 patent. Like so many of the Chavanoz patents, this one had a tortuous file wrapper history covering four and a half years during which the solicitor had three different interviews with the examiner and during which the claims were rejected no less than six different times. Each rejection was responded to and the claims were eventually amended and gradually narrowed down to the point where they were allowed.

During the prosecution of the patent, fourteen different prior art patents were cited by the examiner. The solicitor admitted that at least one prior art patent cited by the examiner disclosed rewinding with "considerable shrinkage" while others disclosed a second heat treatment; nonetheless, the solicitor submitted that it would "involve invention to provide a process involving [740] both a winding technique under conditions, namely overfeeding, whereby considerable shrinkage would occur, followed by a heat treatment . . ." (File Wrapper, PX 671, p. 47). Throughout the file wrapper the concept of considerable shrinkage was used to distinguish the invention from prior patents which taught only "low tension rewinding." Finally, the prior art for processing cellulosic yarns was distinguished as failing to disclose a second thermal treatment at a moderate temperature and the range of 75 to 85° centigrade was specifically mentioned. Although a prior Heberlein patent cited by the examiner disclosed a range of between 60-200° centigrade the solicitor insisted that reading Heberlein in conjunction with Stucki United States Patent No. 2,869,318 would require one of ordinary skill in the art to conduct the second heat treatment at a high temperature, one in excess of 150° centigrade (PX 671, p. 60).

There were eventually three distinctions made between the '973 patent invention and the prior art cited by the patent examiner. First, the prior art failed to disclose the combination of two prior processes: (1) a process with a winding technique allowing considerable shrinkage; and (2) a process involving a second heat treatment. Second, the prior art taught low tension rewinding rather than allowing considerable shrinkage to take place by overfeeding. Third, the prior art did not disclose a moderate second heat treatment in the presence of steam at a temperature of from 75 to 85° centigrade.

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The two Finlayson patents, British Patent No. 464,981 (PX 14) and United States Patent No. 2,174,573 (PX 742) were not disclosed to or cited by the patent examiner. Taken together, these two patents disclose a method for improving cellulose acetate yarns which combines the steps of false-twisting, overfeeding to the take-up package to permit considerable shrinkage, and applying a second heat treatment with a hot aqueous medium (including wet steam) at a temperature at or close to the boiling temperature. The British patent specifically called for false twisting and overfeeding to the take-up package to permit shrinkage of the yarn. This British patent is incorporated in the later United States patent. The United States Finlayson patent specifically discloses post heat treatment of cellulose acetate yarns in the presence of steam. These two prior art patents were more pertinent than any of the art cited by the examiner in the prosecution of the '973 patent. The presumption of the patent's validity is weakened or destroyed because of the failure of the examiner to consider the most pertinent prior art. *Heyl & Patterson v. McDowell*, 317 F.2d 719 (4th Cir. 1963).

Defendants make several attempts to distinguish the Finlayson patents. They assert that the Finlayson patents were "paper patents" which were never practiced commercially and, accordingly, that they should be narrowly construed. Defendants also assert that the Finlayson patents are distinguishable in that they did not disclose the claimed range of from 75 to 85° centigrade in the second heat treatment.

In support of their position on the "paper patent" status of Finlayson, defendants point out that the Finlayson United States Patent No. 2,174,573 was in fact the patent of the Celanese Corporation. Defendants submit that at-

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tempts by Celanese to develop a process to texture cellulose acetate continued well into the 1950's and are exemplified by United States Patent No. 2,869,318 which was filed in 1954. This latter Celanese patent did not utilize the step of post-treating cellulose yarn. Defendants assert that this patent is more indicative of the thinking of Celanese and of the thinking in the industry in the mid to late 1950's than is the 1939 Celanese patent.

A patent constitutes prior art for 35 U.S.C. § 103 purposes even though it is a "paper patent" which was never put to commercial use: *National Filters v. Research Products Corporation*, 384 F.2d 516 (5th Cir. 1967); *Sutter Products Company v. Pettibone Mulliken Corporation*, 428 F.2d 639 (7th Cir. 1970). The issuance of a patent creates a presumption that it is workable [741] and any alleged unworkability of a patent does not preclude its relevance for determinations of obviousness. *Blohm and Voss v. Prudential-Grace Lines*, 489 F.2d 231 (4th Cir. 1973). Further, where a process has been fully disclosed in the prior art without a full appreciation of all its valuable attributes, the perception of new advantages in the old process does not constitute invention. *Cutter Laboratories v. Lyophile-Cryochem Corporation*, 179 F.2d 80 (9th Cir. 1949). Accordingly, the prior 1937 and 1939 Finlayson patents will be given full effect for what they disclose even though there is no evidence that these process patents were ever placed in actual commercial use.

Defendants' essential distinction of the Finlayson patents turns on the failure of the patents to disclose the 75 to 85° centigrade range of temperature. The '973 patent is sustainable only if this range is a "critical" temperature range and if the range would not have been obvious to one skilled in the art who had knowledge of the prior art references.

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The court concludes that the '973 patent fails on both counts.

One who seeks to establish a patent for a given range of conditions on the basis that he has located the optimum conditions for use of a given process faces a difficult task. It is generally not inventive or worthy of patent protection to point out the range of temperature at which the best results can be obtained. *American Potato Dryers v. Peters*, 184 F.2d 165 (4th Cir. 1950). The location of optimum temperatures or conditions can usually be discovered by patient experimentation and does not constitute invention so as to entitle one to a patent monopoly. *Helene Curtis Industries v. Sales Affiliates*, 233 F.2d 148 (2nd Cir. 1956); *National Lead Company v. Western Lead Products*, 324 F.2d 539 (9th Cir. 1963); *Triumph Hosiery Mills v. Alamaance Industries*, 299 F.2d 793 (4th Cir. 1962); *Servo Corporation v. General Electric*, 337 F.2d 716 (4th Cir. 1964). It is only where the selected point corresponds with a physical phenomenon and the patentee has discovered the point at which the physical phenomenon occurs that maintenance of a patent monopoly is permissible. *Kwik Set, Inc. v. Welch Grape Juice*, 86 F.2d 945 (2nd Cir. 1936).

The court rejects defendants' position that they discovered the point at which the requisite physical phenomenon occurs, and finds nothing critical about the specified 75 to 85° centigrade range. As best, yarns steamed within the range produced marginally better commercial products; however, the properties of the yarn steamed inside and outside the specified range differed only in degree. Yarns steamed outside the specified range were approximately equal in commercial use and could be used interchangeably with yarns within the claimed range.

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Even if the criticality of the claimed temperature is assumed, criticality alone will not suffice for invention. *Servo Corporation v. General Electric*, *supra*. It was well within the ability of one of ordinary skill in the art to have discovered the temperature range disclosed by the '973 patent by the process of routine experimentation. Trial testimony by the experts for both parties is consistent that the Finlayson patents would teach one to post-treat cellulose yarns in a hot wet environment in the range of 90 to 100° centigrade. Defendants' expert, Mr. Evans, testified on cross-examination as to how a man of ordinary skill in the art would have textured cellulose acetate before the '973 patent. Mr. Evans testified that this hypothetical man would: (1) false twist under tension; (2) overfeed; (3) select the particular overfeed that would give him his desired effect; and (4) post-treat the yarn in a moist or wet hot environment. He further testified that in this post-heating treatment the prior art would have suggested working between 90 and 95° centigrade. Given that background, it is difficult to believe that a man of ordinary skill in the art would not eventually have reduced his temperature to 75 to 85° centigrade in order to obtain specifically desired yarn characteristics. In short, the "lengthy experiments" that led to the '973 patent were the work of a skilled mechanic and not that of an inventor. See [742] *Hotchkiss v. Greenwood*, 11 How. 248, 266, 52 U.S. 248, 266, 13 L.Ed. 683, 691 (1851).

The court holds that the '973 patent does not rise to the level of invention necessary to sustain patentability under 35 U.S.C. § 103 in that the claims asserted would have been obvious to one of ordinary skill in the art in light of the prior art disclosures, particularly the disclosures contained in Finlayson British Patent No. 464,981 and United States Patent No. 2,174,573.

Validity: Indefiniteness.

Plaintiffs have also attacked the '973 patent for failure to comply with the requirements of 35 U.S.C. § 112, complaining that it does not contain a written description of the invention and of the manner of using it in such full, clear, concise and exact terminology as would enable a person skilled in the art to use or carry out the process.

Plaintiffs' position on indefiniteness is that: (1) the patent is ambiguous as to its purpose in increasing the curliness of cellulose acetate yarn; (2) that the examples given within the patent are unworkable or are unclear and internally inconsistent; and (3) that the patent fails to disclose whether the wet bulb or dry bulb temperature is operable.

Plaintiffs' first argument is rejected. The patent does indicate that the purpose of the invention was to improve the degree of curliness in cellulose acetate yarn by a second heat treatment. All parties have agreed that it was well known that the second heat treatment in fact reduces the curliness of false-twisted cellulose acetate yarn. The court concludes that this seeming ambiguity is explained in that the patentee was not comparing a pre-steamed false twist yarn with a post-steamed false twist yarn, but instead was comparing a false-twisted and steamed yarn with the yarn of the prior art products. Admittedly, there is some ambiguity on this point; however, the court is unconvinced the ambiguity is such that one of skill in the art would be confused or misled as to the purpose of the invention.

It was also established at trial that both examples contained in the '973 patent contained inconsistencies. It was admitted that example 1 was unworkable and did not yield the desired result and that example 2 is unclear and is

internally inconsistent. In fact, the admitted internal inconsistencies contained in example 2 were cited by defendants' counsel as the reason that a formal disclaimer of claim 4, which called for a 6% shrinkage, was filed. Despite these difficulties, the court is unconvinced that the patent should fail for indefiniteness. The claims of the patent are straightforward in claiming a process requiring false-twisting, winding with considerable shrinkage, and subjecting yarns to a second heat treatment of 75 to 85° centigrade in the presence of steam while the yarn is substantially free from tension. The absence of a working example is not necessarily conclusive on the issue of indefiniteness. The test is whether there was sufficient working procedure for one skilled in the art to practice the claimed invention without undue experimentation. *Application of Stephens*, 529 F.2d 1343 (Cust. & Pat.App. 1976). In light of the disclosures contained within the patent as a whole, the claims, and the relative skill of those in the art, the court finds that the absence of a working example does not render this patent invalid for indefiniteness.

The final assertion by plaintiffs is that the '973 patent should be declared invalid for indefiniteness since it fails to disclose whether the wet bulb or dry bulb temperature is operative. In operating a steam box as specified in the '973 patent, two temperature settings are generally utilized. The dry bulb temperature is the measure of the absolute temperature of the air in the steam box. The wet bulb temperature is the measure of the amount of moisture within the box and is normally used in conjunction with the dry bulb reading to ascertain the relative humidity of the moist atmosphere. Wet bulb temperature has also been described as the measure of the temperature which the yarn reaches while in a hot wet environment. In short, wet bulb is the measure

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of the temperature the [743] yarn reaches as compared to dry bulb which is the temperature that the air in the heater reaches. It has been admitted that both the dry bulb and wet bulb temperatures in the heater would affect yarn characteristics. At trial, defendants have asserted that it is only the wet bulb temperature that is operative in practicing the '973 process and that those skilled in the art were aware that it was the wet bulb temperature which was referred to in the '973 patent. For present purposes, the court deems it unnecessary to decide the "battle of the experts" as to whether wet bulb or dry bulb temperatures are operative. It is sufficient to note that those in the art were aware that there were two separate temperature settings involved in the operation of steam boxes. Given the 75 to 85° centigrade range, it would not have required undue experimentation by one practicing the '973 process in order for a determination to be made of whether the wet bulb or dry bulb temperature yielded the desired yarn characteristics.

For purposes of the discussion on indefiniteness, the court has assumed that the '973 patent is not void for obviousness in light of the prior art disclosures. Proceeding on this premise, the court finds that the disclosures within the '973 patent were sufficient to enable one of ordinary skill in the art to understand the process claimed and to practice the claimed invention without having to resort to undue experimentation. United States Patent No. 3,123,973 is not invalid for indefiniteness.

Infringement.

For purposes of this discussion it is assumed that the '973 patent is valid and is not unenforceable by reason of the prior findings of patent misuse. Plaintiffs have asserted three grounds of non-infringement: (1) that their sole pur-

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pose in overfeeding cellulose acetate yarn and subjecting it to a second heat treatment is to reduce (rather than to increase) the torque and liveliness of the yarn; (2) that the temperatures specified in the '973 refer to dry bulb temperatures and many Throwsters have processed acetate outside the ranges specified; and (3) that cellulose acetate yarn textured by Throwsters' specifications is not substantially free from tension and is not permitted to undergo considerable shrinkage.

Plaintiffs' first argument has previously been rejected by the court in its discussion on indefiniteness. It is admitted by all parties that a post heat treatment reduces the degree of curliness in the yarn. This result is also disclosed in the patent (Column 2, Lines 36 and 37) where the effect of an additional thermal treatment is discussed and it is stated: "However, a little of the shrinkage capacity and of the springiness is lost." Patentee's references to increased curl and bulk were a result reached by a comparison of a yarn false twisted and steamed by the patented process with a yarn processed by other prior art techniques.

Plaintiff's second argument is a partial non-infringement argument premised on this court's making the determination that a dry bulb rather than a wet bulb temperature range is specified in the patent. It is not disputed that many Throwsters have steamed yarns at temperatures above 75 to 85° centigrade, dry bulb. The terms dry bulb and wet bulb have previously been defined in this court's discussion of indefiniteness. In a "battle of the experts" at trial, defendants attempted to show the temperatures referred to in the '973 were actually wet bulb temperatures while plaintiffs insisted that one skilled in the art would understand that the temperatures referred to the dry bulb temperature. The issue is close; however, the court is convinced by a pre-

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ponderance of the evidence that one skilled in the art would understand that temperature references in the '973 patent are to wet bulb temperatures. Sufficient evidence has been presented that the plaintiffs steamed acetate yarns at wet bulb temperatures within the range of 75 to 85° centigrade, and plaintiffs' argument of non-infringement because of their use of dry bulb temperatures of above the patent range is rejected.

[744] Plaintiffs' final argument on non-infringement is that the Throwsters have not processed yarns under conditions permitting the yarn to undergo "considerable shrinkage" and, accordingly, that Throwster processes do not come within the teachings of the '973 patent. The court agrees and concludes that there is no infringement. The evidence establishes that from 1964 to 1970, plaintiff Throwsters processed acetate with typical specifications calling for between 10 and 16% overfeed to the take-up package. This rate of overfeed would give a net shrinkage in the range of 5 to 6% because of various rates of underfeed in the first heater. The argument is made that a 5 to 6% shrinkage cannot be deemed to be "considerable shrinkage." In resolving this matter, the court has turned to the patent, the patent specifications, and the file wrapper. Throughout the prosecution of the '973 patent prior art which disclosed low tension rewinding was distinguished from the patentee's process since the prior art could not allow the type of "considerable shrinkage" that was an essential part of the process sought to be patented. The patent discloses that considerable shrinkage is to be achieved by overfeeding. Example 1 in the patent calls for a shrinkage of 33%. Claim 3 speaks in terms of shrinkage of from 30 to 35%. Example 2 in the patent is admittedly confusing but does call for overfeeds of about 20%. Further, the court notes

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that the '973 patent was assigned to Chavanoz and that the Chavanoz processing specifications for cellulose acetate prior to 1969 called for package overfeeds of about 28%.

The procedures used by plaintiff Throwsters do not include package overfeeds within the range that the '973 patent indicates could permit "considerable shrinkage." The great majority of the plaintiffs' specifications show overfeeds of from 8 to 14% and there is no evidence that any plaintiff has commercially employed package overfeeds as high as 20%.

The package overfeeds and resulting shrinkages employed by the plaintiffs are considerably less than the overfeeds and shrinkages suggested by the '973 patent. Defendants have not discharged their burden of proof on infringement by establishing by a preponderance of the evidence that plaintiffs' processing specifications for cellulosic yarns involved a crucial step required in defendants' '973 combination patent. The court is not able to conclude that plaintiffs' processing specifications involve winding the yarn into a package under conditions whereby the yarn was permitted to undergo "considerable shrinkage" within the meaning of the '973 patent. Accordingly, the court holds that the '973 patent, even if valid, has not been infringed.

• • •

In addition to the facts found by the court in its treatment of the '973 patent the court adopts as its own the following proposed findings of fact submitted by the parties on the patent issues:

1. On the issue of validity: plaintiffs' proposed findings 9.2.1; 9.3.1-9.3.10 inclusive; 9.3.13-9.3.15 inclusive; 9.4.1; 9.5.1; 9.5.2; and 9.6.1.

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Defendants' proposed findings IX-30, 35, 37, 43, 44, 73-78 inclusive, and 84.

2. On the issue of infringement: plaintiffs' proposed findings 9.1.1-9.1.4 inclusive; 9.1.6-9.1.17 inclusive; 9.7.1 with the exception of the last sentence; 9.7.2; and 9.7.5-9.7.9 inclusive.

Defendants' proposed findings IX-1, 2, 7, 9, 10, 11, 12 and 13.

Patent No. 3,165,881

Entitled "Production of High Bulk Yarns", this invention, according to the specifications, "relates to improvements in the production of high bulk yarns." The application for the patent was filed January 31, 1961, by the inventors, de Moncuit of Chavanoz and Crouzet of ARCT-France, with a claimed priority date of February 3, 1960. After surviving six rejections in the Patent Office over a period of four years six claims were finally allowed and the patent issued on January 19, 1965.

After reciting that synthetic yarns textured on conventional one heater false twist [745] machines have high bulk and high elastic elongation, the specifications state that while in some end products such as hosiery high elastic elongation is a desirable quality in a yarn, in others such as sweaters high bulk is desirable but "high elastic extension is disadvantageous." Continuing, the specifications state:

"A further heat treatment of the high bulk yarn mitigates this disadvantage. The further heat treatment may be applied while stretching the yarn or the yarn may be further heated and then wound under low tension so as to permit a substantial contraction.

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"The present invention is concerned with a machine which enables the whole operation of false twisting, heat setting and further heating to be carried out in a single run of the yarn and moreover enables the further heating to be effected either under stretching conditions or under low tension so as to permit contraction.

"The machine according to the present invention comprises a frame carrying for each yarn two heating elements and a raise twisting spindle between the two heating elements, the false twisting spindle being constructed and mounted so that the false twist runs back into the heating zone of the first heating element and carrying feed devices in front of each heating element and behind the second heating element, the relative speeds of the three feed devices being adjustable.

* * * * *

"The invention further comprises the combination of a voluminizing frame, as described above, with a creel. Such a creel may be of the magazine type, that is to say positions are provided for two [supply] packages for each yarn running through the voluminizing frame and are so disposed with respect to one another that the inner end of the yarn on one package . . . can be tied to the outer end of the yarn on the other package, the packages being of the type which are unwound by pulling over the end. Further, the frame of such a creel may be extended upwards and carry in its upper part take-up devices, one for each yarn, the frame being held at the top to the frame of the voluminizing frame by suitable crossbars. Most advantageously the combined machine is provided with a low platform between the voluminizing frame and the creel frame and the various thread guides are so mounted that the yarns pass from the

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[supply] packages under the platform, up through the elements of the voluminizing frame and back overhead to the take-up devices mounted in the upper part of the creel, thus enabling operatives on the platform to thread up or otherwise attend to the creel or to the voluminizing frame without interfering with the continuity of the process."

In the diagram reproduced below there is shown one side of a two-sided machine with the supply and take-up packages located on the right-hand frame and the two heaters, false twist spindle and guide rolls located in the left-hand ("voluminizing") frame. The two frames are joined by the platform at the bottom and a crossbar at the top.

[DIAGRAM OMITTED]

In the diagram the yarn 5 travels from one of the supply packages 3 underneath the platform 12, upward through the guide [746] and feed rolls 16 and 17, through the first heater 18, through the false twist spindle 22, thence through the second heater 24, thence back across the passageway between the two frames and onto one of the take-up packages 31a.

Claim 1 of the patent reads:

"1. Yarn processing apparatus comprising a false twisting and yarn heating assembly for twisting and heat treating yarn, a yarn supply and take-up assembly disposed laterally to one side of said false twisting and heating assembly, said yarn supply and take-up assembly comprising yarn supply support means and yarn take-up means, and an intermediate operator supporting platform disposed between said assemblies, said platform having a supporting surface and a yarn passageway beneath said surface for

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passage of yarn between said assemblies while permitting an operator to stand on said platform without hindrance to the passage of yarn between said assemblies."

Claim 2 is a dependent claim, calling for an apparatus according to claim 1 with the yarn supply and take-up means disposed one above the other. Claim 3 calls for a double-sided yarn voluminizing frame with creel frames on either side. Claim 4 adds descriptive language relating to yarn guides, crossbars connecting the overhead portions of the frame, and the cyclic path of the yarn running on the machine. Claim 5 is a dependent claim calling for an apparatus according to claim 4 with the take-up means above the supply means so that the yarn can be fed cyclically through the machine to the take-ups.⁷⁰

Plaintiffs argue the invalidity of the '881 patent on two grounds: (1) the invention was on sale in this country more than one year prior to the date of the application for the patent in the United States and is thus within the "on sale" exception of 35 U.S.C. § 102(b); and (2) the patent is void for obviousness under 35 U.S.C. § 103.⁷¹

⁷⁰ Claim 6, another dependent claim, which calls for a false twisting and yarn heating assembly including "a pair of convex tubular heaters", is not in issue in this case since none of the ARCT machines owned or operated by the plaintiffs embodied this feature.

⁷¹ Since all of the ARCT machines since the earliest models have embodied the multi-frame, platform features disclosed in the patent, and all of the plaintiffs own some of the machines embodying these features, infringement is not a serious issue with respect to this patent. One late model ARCT machine, the FTF-490, has a triple frame arrangement, the one in the middle containing one of the heaters and the take-up packages with the voluminizing and supply package frames being disposed to either side. One of the plaintiffs, Texfi, contends that its FTF-490 machines do not infringe the '881 patent, but the court has concluded that claim 1 does in fact read directly on this machine. Thus the only real defense to this patent is its alleged invalidity.

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The defendants vigorously contend to the contrary, arguing that the '881 patent represented a radical departure from the prior art and another outstanding achievement by Chavanoz in the advancement of the art of false twist texturing.

The "On Sale" Defense.

Plaintiffs urge that the '881 patent is invalid under 35 U.S.C. § 102(b) which provides in part that:

"A person shall be entitled to a patent unless the invention was . . . on sale in this country, more than one year prior to the date of application for the patent in the United States . . ."

After a tortuous four-year history in the Patent Office the '881 patent was issued on January 19, 1965, pursuant to an application filed on January 30, 1961. The relevant date for Section 102(b) purposes, therefore, is January 30, 1960, one year prior to the United States filing date. It is settled that a single instance of a sale prior to the critical date suffices to invalidate the patent. *Maibohm v. RCA Victor Company*, 89 F.2d 317 (4th Cir. 1937). It is the single instance of "on sale" which is relied upon here by the plaintiffs.

The essential facts underlying this instance are not in great dispute. They are summarized in the numbered paragraphs below.

[747] 1. The first ARCT machine to embody the double frame concept of the '881 patent was the FTF machine. On January 5, 1960, in response to a December 29, 1959 letter inquiry from Joseph H. Hamilton, then president of Burlington Throwing Company, regarding the availability of a double heater machine, Robert F. Waters, then the

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Whitin Machine Works ARCT salesman, wrote to Mr. Hamilton as follows:

"You asked me about the Chavanoz or ARCT FTF (sic) machine in your December 29th letter, and whether we were in a position to furnish some information on this machine.

"I have received three photographs from Leo Soep when he was here recently, and prototypes of the machine have been running in Chavanoz's throwing plant. I would prefer not to send the photographs because I expect to be in the south during the next couple of weeks and discuss the machine in detail with you at that time. I might add, however, that they are quoting a delivery of an approximate twelve weeks. Although I have not received any price information Leo Soep estimated that it might cost about 50% more than the FT machine, but this is strictly a guess."

Mr. Waters then continued with a description of the FTF machine and its multiframe arrangement (PX 308).

2. At the trial Hamilton testified that his letter of December 29, 1959, and Waters' response of January 5, 1960, were in connection with his constant efforts to get machinery manufacturers to develop a machine to make set yarns in a continuous operation. He said that he understood from this correspondence that the FTF machine was not then ready, but would be available in the future (Tr. 15, p. 3072).

3. Waters testified at the trial that twelve weeks was the minimum lead time required for manufacture and delivery of ARCT false twist machines.

4. As promised in his January 5 letter, Waters visited Hamilton in his office "a couple of weeks" later. During

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that meeting Hamilton was shown pictures of an ARCT machine embodying a separate creel and platform arrangement. He made a sketch of the arrangement (now attached to PX 308) which shows the two frames separated at the bottom by the platform and joined at the top by the crossbar, one frame carrying the supply and take-up packages and the other the texturizing elements. Waters gave Hamilton additional information about the machine at that time.

5. In his testimony Hamilton said that he was "trying to zero in on the commercial application and commercial introduction of a machine of this type that would give us new products. I was very, very hot on moving in this direction from a manufacturing and products standpoint." (Tr. 16, p. 3269.)

Hamilton further testified:

"Well, Mr. Waters, myself and Mr. Waters and Burlington had a very good working relationship and he was as anxious as we were to collaborate in the commercial development or exploration of these new yarn processing devices, including the double heater approach." (Tr. 16, p. 3270.)

6. On March 14, 1960—six weeks after the critical date under Section 102(b)—a textile publication carried a story and photograph of a new ARCT double heater machine. The lead sentence stated:

"NEW YORK.—A new machine to turn out a stabilized bulk type yarn via a continuous one-step false twist operation, as opposed to the usual two-stages, will be marketed in the United States by Whitin Machine Works, Whitinsville, Mass." (PX 1292.)

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7. On May 6, 1960, Waters wrote Armitage of DMRC about the FTF machine. He asked the following question: "How do you feel about our promoting the sale and licensing of this machine in our territory?" (PX 643.)

8. On June 6, 1960, Waters wrote Soep of Chavanoz concerning Whitin's uncertainty about the legalities of licensing the FTF machine, stating:

[748] "I discussed verbally and by letter the subject of the FTF machine with Norman Armitage and now following the Atlantic City fair I should like to feel free to pursue promotion and sale of this new machine." (PX 645.)

9. On April 17, 1961, Waters wrote a memorandum to Dalton of Whitin briefing him on the ARCT program. In the memorandum it was stated:

"You are planning to visit the knitting arts exhibition next week where we will be introducing a new machine identified as the type FTF (False Twist Fixed). I hope this will serve to acquaint you with our activities." (DX 849.)

10. The FTF machine that was exhibited in April, 1961, at the knitting arts exhibition was the first '881 machine to reach the United States. It was also the first '881 machine that Waters had ever seen, and prior to 1961 Whitin had never had any agreement with ARCT-France to purchase a machine embodying the invention of the '881 patent. Whitin received its first FTF machine in late April, 1961, and its first delivery of such machine was to Celanese after the knitting arts exhibition (Tr. 81, pp. 15807-11).

The cases decided under 35 U.S.C. § 102(b) apply two different tests to determine whether an invention is "on

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sale”, the “on hand” test and the “commercial exploitation” test. Under either test the parties agree that plaintiffs bear the burden of establishing the “on sale” defense by clear and convincing evidence.

The cases are not clearly instructive as to which of the tests is to be applied in this Circuit, *see Nicholson v. Mullis Engineering and Manufacturing Company*, 315 F.2d 532 (4th Cir. 1963), *cert. denied*, 375 U.S. 828, 84 S.Ct. 72, 11 L.Ed.2d 60 (1963), but even if this court is free to apply the commercial exploitation test, it has concluded that the plaintiffs have not carried their burden.

Under the “on hand” test a completed sale, with or without delivery, is not required to establish a bar to patentability within the meaning of Section 102(b). An offer to sell, made to a prospective purchaser after the experimental stage of development of the invention has passed, the invention reduced to practice, and a device manufactured in its perfected form, places the device “on sale” within the meaning of the statute. An article is “on sale” if it is on hand ready to be delivered to any purchaser whether or not the article has been sold. *Nicholson v. Mullis Engineering, supra*.

After reconsidering its prior holdings the Second Circuit in *Timely Products Corporation v. Arron*, 523 F.2d 288 (2nd Cir. 1975), abandoned its adherence to the “on hand” doctrine and adopted the commercial exploitation test. In that case, in which plaintiffs here place great reliance, the court held that an article is “on sale” if an application for a patent is filed more than one year after the solicitation of an order for a specific article to be produced later where the following requisites are present:

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“(1) The complete invention claimed must have been embodied in or obvious in view of the thing offered for sale. (Citations omitted.) Complete readability of the claim on the thing offered is not required because whatever is published (or on sale) more than one year prior to the filing of a patent application becomes part of the prior art over which the claim must be patentable . . .

“(2) The invention must have been tested sufficiently to verify that it is operable and commercially marketable. This is simply another way of expressing the principle that an invention cannot be offered for sale until it is completed, which requires not merely its conception but its reduction to practice . . .

“(3) Finally, the sale must be primarily for profit rather than for experimental purposes. (Citations omitted.)”⁷²

Plaintiffs have not proven these requisites. There is no clear evidence that Waters made Hamilton an offer to sell a [749] machine embodying the '881 patent. The Waters letter of January 5, 1960, and his subsequent meeting with Hamilton establish at best that certain preliminary steps looking to the sale of an article were discussed; however, clear and convincing evidence of an offer for sale is lacking, and the existing machines were described as “prototypes”. For all that appears the machines were still in the experimental stage, and it would be speculative to hold that the invention claimed was embodied in or obvious in view of the machine discussed by Waters and Hamilton. There is

⁷² For two illuminating discussions of the “on sale” defense *see* Zieg, “Developments in the Law of ‘On Sale’”, Vol. 58, p. 470, *Journal of Patent Office Society* (1976), and Barrett, “New Guidelines for Applying the On Sale Bar to Patentability”, 24 *Stanford Law Review* 730 (1972).

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no evidence that the machine had been tested sufficiently to verify its operability. Thus the only one of the three requisites listed in *Timely Products* which is satisfied here is the one that the sale must be primarily for profit rather than for experimental purposes.

Thus it appears that regardless of whether the "on hand" or "commercial exploitation" test is applied, the FTF machine embodying the '881 patent was not on sale before January 30, 1960, and plaintiffs' Section 102(b) defense must therefore fail.

Obviousness.

Plaintiffs confidently assert that the '881 patent is invalid under 35 U.S.C. § 103 in that "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." The defendants stressfully contend to the contrary, arguing that the '881 patent provided a comprehensive solution to the many problems which had been experienced in the use of the earlier single and double heater false twist machines.

"[T]hey came up with a radical idea in the false twist field: abandon the single frame structure; use multi-frame structures to separate totally the yarn treating elements (heaters and spindles) from the supply and take-up elements; and incorporate a special slotted operator platform under which the yarn travels horizontally from the supply package to the treating frame." (Defendants' Trial Brief, p. 31.)

Advantages claimed by defendants for the invention included the use of longer heaters, faster spindles, larger

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supply packages and large, well-formed take-up packages which could be shipped directly to the fabric manufacturers without rewinding. For the first time, so the argument goes, "the texturizer could put the raw yarn into a false twist machine, give it one or two heat treatments, and take off a superior yarn ready for immediate use."

Since no individual element in this combination patent was new, the key to defendants' position is that it was inventive to separate the supply and take-up packages from the texturizing frame. Once it was determined that the two frames should be separated, it was necessary that a means for allowing the yarn to travel from the supply package frame to the texturizing frame had to be devised. The obvious solution, defendants' expert admitted, was the platform arrangement. (Tr. 71, pp. 13869-70.)⁷³ In short, if it was inventive to separate the frames, the '881 patent is valid; otherwise not.

After a tortuous history through the Patent Office marked by at least six rejections the '881 patent was finally issued on January 19, 1965. As originally filed, the patent contained claims which were directed broadly to "double heater false twist machines." These claims were rejected since the double heater process was already known in the false twist art. In rejecting the claims relating to the plat-

⁷³ "Q. [S]uppose you were faced in 1958 with a yarn path as on the ARCT machine and didn't have a platform, but assume further that you were not instructed to provide some means for protecting the yarn or crossing over it . . . what would you have done then?"

"A. I find these hindsight hypotheticals a little bit difficult, but if I was directed to beam all my attention to designing a platform, I imagine I would have come up with something, but I don't think it would have been quite as practical and cute as that solution." (Tr. 71, pp. 13874-75.)

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form disclosed in the application the patent examiner stated:

"Applicant's particular arrangement is seen to be an obvious modification of [750] either of the frames shown in the secondary references and is deemed to be a mere matter of design and arrangement well within the scope of one skilled in the art. It should be noted that applicants have chosen to place the supply creels laterally displaced from the crimping frame and have thus created the problem of having yarns crossing the walking path, which problem is then solved by placing a platform over the yarns." (PX 739, pp. 15-16.)

Three years later we find the examiner issuing another rejection in which he said:

"As stated in the previous office actions, no invention is seen in the particular positioning of the supply and take-up means with respect to the volumizing frame, double-sided frames being conventional in the art." (PX 739, p. 59.)

Persistence finally prevailed, and the prior art was ultimately distinguished before the examiner upon representations that it failed to disclose two important features contained in the '881 patent: (1) a cyclic yarn path and (2) an operator platform (PX 739, pp. 70-71). At the trial the defendants contended that the cyclic yarn path, moving the yarn horizontally and around various guides, as well as the provision of an operator platform were radical departures from the prior art, and their expert witnesses so testified.

In evaluating this position, the court has noted the evolution of false twist machinery design in the late 1950's and early 1960's. Around 1953 Heberlein announced the manu-

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facture of a false twist machine to texture yarns in a continuous, one-shot process. Other companies such as Scragg and Leesona who had previously concentrated on uptwister machines were entering the false twist machinery market.

The early machines followed the uptwister approach with a vertical yarn path and a compact machine to minimize the use of mill floor space. The pre-1960 machines were relatively slow speed, single heater machines with relatively short heaters and small take-up packages. In 1959 the Heberlein FZ-25 machine was introduced as a double heater machine with a cyclic yarn path, but all machine elements were located on a single frame. The FZ-25 machine was not a commercial success, but it did signal the industry's interest in a double heater false twist machine. The 1960's also marked the advent of higher machine and spindle speeds, the production of larger denier yarns by the fiber producers and larger supply and take-up packages.

Historically in the textile industry when take-up and supply packages get larger and heavier, machine designers have had the option to go to a side creel, that is, a frame disposed to the side of the main frame. Moving to a side creel was a logical solution to the problems created by the increasing length of heaters, the lack of ceiling space and larger yarn packages. On cross-examination defendants' expert reluctantly conceded that, as a designer faced with the necessity of going to larger supply packages, the choices in 1958 were to install the creel overhead on the machine itself or "you could take the ARCT embodiment and put it in a separate creel" (Tr. 71, pp. 13863-66).

There is little doubt that the '881 patent laid the groundwork for a tremendously successful ARCT double heater

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machine. Plaintiffs concede that ARCT produced the first commercially successful double heater machine and the machines were in great demand by the industry. They were a great improvement over the previously available double heater machines, especially the Heberlein FZ-25. However, improvements per se are not patentable. In fact, many of the improvements of the ARCT machines stemmed from features unrelated to the separation of the frames and the platform arrangement. These included positive feeds that controlled the yarn while in a twisted state and positive take-ups which enabled the user to build a headless take-up package. Likewise, ARCT was usually in the forefront in offering longer heaters and the sophisticated but unpatented temperature controls produced by the Telemecanique Company.

Since the '881 was a combination patent, it should be scrutinized with a care proportioned to the difficulty and improbability [751] of finding invention in an assembly of old elements. *The Great A & P Tea Company v. Supermarket Corporation*, 340 U.S. 147, 152, 71 S.Ct. 127, 95 L.Ed. 162 (1950). This patent simply rearranges old elements in the false twist process with each continuing to perform the same function that it had been known to perform in previous combinations with the addition of the platform separating the two frames which performed the same function that platforms had traditionally performed. There was no new or different function, no surprising consequences and no synergistic result.

"Though doubtless a matter of great convenience, producing a desired result in a cheaper and faster way, and enjoying commercial success, [the patent] 'did not produce a "new or different function" . . . within the test of validity of combination patents'.

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Anderson's Black Rock v. Pavement Company, supra, 396 U.S. at 60, [90 S.Ct. 305]. These desirable benefits 'without invention will not make patentability.'" *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282, 96 S.Ct. 1532, 1537, 47 L.Ed.2d 784 (1976).

In summary, the court concludes that at the time of the invention alleged in the '881 patent, it would have been obvious to a man of ordinary skill in the art of false twist textile machinery design to solve the problem created by the increasing use of larger, heavier and additional false twist machinery components by dividing those components between two separate machinery frames and employing where necessary a platform between the frames to provide operator access while simultaneously protecting the yarn. Such solutions had been previously employed in numerous other textile machines such as looms, spinning machines, twisters, tenter frames and fabric inspection tables in response to substantially the same problems.⁷⁴ Accordingly,

⁷⁴ Defendants' contention that the prior art in textile machinery other than that in the false twist field should not be considered is without merit. *Digitronics Corporation v. New York Racing Association, Inc.*, 553 F.2d 740 (2nd Cir. 1977).

"In determining the scope of the relevant prior art with which the hypothetical ordinarily skilled person must be presumed to be familiar, we hold simply that the court must look, in light of both the training of the patentee and the elements in the claimed invention which give it its novel quality, at what arts the patentee could reasonably be expected to consult in doing the inventing." *Id.* at p. 745.

The evidence shows that the manufacturers of false twist machines, including ARCT-France, also manufactured various other lines of textile machinery. Crouzet of ARCT and de Moncuit of Chavanoz could reasonably have been expected to consult the art available in the manufacture of textile machinery generally.

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the court is constrained to hold the '881 patent void for obviousness under 35 U.S.C. § 103.

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In addition to the facts found by the court in its treatment of the '881 patent the court adopts as its own the following proposed findings of fact submitted by the parties on the patent issues:

1. On the issue of obviousness: plaintiffs' proposed findings 10.4.1-10.4.15 inclusive.

Defendants' proposed findings V-5 (first sentence only); 15-19 inclusive; 23-26 inclusive; 31 (first two sentences); 38, 45 (only those portions on pp. V-27 through V-33 which quote directly from evidence at trial); 47, 48, 59 and 62.

2. On the issue of infringement: plaintiffs' proposed findings 10.1.1; 10.1.2 and 10.2.1.

Defendants' proposed findings 1, 34, 35 and 36.

3. On "on sale" defense: plaintiffs' proposed findings 10.3.1 (with the exception of the last sentence); 10.3.2.

Defendants' proposed findings V-69-71 inclusive; 73-80 inclusive.

[752] *Patent No. 3,232,037*

United States Patent No. 3,232,037 was issued to ARCT-France on February 1, 1966, based upon an application

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Defendants' reliance on the skill of yarn processors to establish the level of skill in the art is likewise misplaced. The question is not what would have been obvious to a user of false twist machines but what would have been obvious to one skilled in the art of designing and building textile machinery. *Systematic Tool & Machine Company v. Walter Kidde & Company*, 555 F.2d 342 (3rd Cir., decided March 25, 1977).

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naming Henri Crouzet as the inventor. That application was filed April 24, 1964, and was a continuation-in-part of an earlier United States application filed by ARCT on September 24, 1963. The patent describes an apparatus for rotating a spindle or shaft at high speeds. Basically, the apparatus consists of two parallel circular discs fixed on a single rotatable shaft (thereby forming a single driving roll), a spindle, and a magnet whose poles are located so they hold the spindle against the edges of the parallel discs with sufficient force that the rotation of the discs imparts rotation to the spindle. This action is demonstrated in the diagram of a cross-section of the apparatus shown below. The two parallel circular discs 1 are fixed to the single shaft 2 which is rotated by a belt (not shown). The spindle 3, through which the yarn 5 runs, is held against the circular discs by the magnet poles 4.

[DIAGRAM OMITTED]

Fourteen claims were allowed by the patent examiner. A typical claim describes an "apparatus for rotating a spindle, at least a portion of which is of magnetizable material, comprising driving means having at least one continuous spindle engaging surface and magnet means disposed externally of the driving means for holding the spindle in driving engagement with the spindle engaging surface of the driving means." This apparatus is commonly called a monoroll spindle.

Plaintiffs contend that the '037 patent is invalid in view of the prior art, particularly the prior Heinze patent, No. 687,428 (PX 771), issued November 26, 1901. They also contend that the subject matter defined by the claims was obvious and non-inventive in view of the contemporaneous work of other spindle designers.

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Even if the patent is valid, plaintiffs' argument continues, it is unenforceable against them because of the facts surrounding its acquisition by Chavanoz and under the doctrine of patent misuse.

Defendants, on the other hand, contend that the '037 patent is valid and infringed by all users of ARCT models FT-420, FTF-440 and FTF-480 machines equipped with the ARCT monoroll spindle. This includes most, if not all, of the plaintiffs in this action.⁷⁵ Defendants further deny most strenuously plaintiffs' allegations of patent misuse.

The court finds the '037 patent invalid and unenforceable.

Validity of the '037 Patent.

Standing as a lion in the path of '037's validity is United States Patent No. 687,428 issued to J. O. Heinze, Jr., November 26, 1901. Like the '037, Heinze disclosed the concept of holding a magnetizable spindle [753] against a single driving roll, that is, a "monoroll", which is composed of two spaced discs. In the Heinze patent the spindle is held in driving engagement with the spindle engaging surfaces of the discs by a magnet whose pole tips are separated and located adjacent to the edges of the discs and between the two discs. The magnet thus holds the spindle in rolling contact with the drive surfaces and prevents the spindle from moving axially, laterally around the discs or away

⁷⁵ This patent raises no serious infringement issue, since plaintiffs admit that if valid and enforceable, claims 1, 2 and 5 of the '037 patent are infringed by the monoroll spindle employed on a variety of ARCT machines used by plaintiffs (DX 240). Additionally, the court finds that claims 12-14 would also be infringed, since plaintiffs' own expert testified that the ARCT monoroll spindle contains "spaced discs, the peripheries of which are in driving contact with the spindle" as required by these claims of the '037 patent. (Tr. 44, p. 8770.)

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from the discs. Rotation of the discs imparts rotation to the spindle.

This action is demonstrated in the diagram of a cross-section of one of the Heinze embodiments shown below. The two parallel circular discs 1 are fixed to the single shaft 2 which is rotated by a belt 5. The spindle 3 is held against the circular discs by the magnet poles 4.

[DIAGRAM OMITTED]

The principal object of the Heinze patent is to rotate a shaft or spindle at a high rate of speed, with the contact area of the spindle and its bearing reduced to a single line, just as described in the '037 patent. The objective of high speed is accomplished by the multiplying effect of the relatively large drive discs and the relatively small spindle. Thus, a single rotation of the drive discs results in a large number, for example, fifteen to twenty rotations of the spindle.

The Heinze patent discloses:

"Apparatus for rotating a spindle, at least a portion of which is of magnetizable material comprising driving means having at least one continuous spindle engaging surface and magnet means disposed *internally* of the driving means for holding the spindle in driving engagement with the spindle-engaging surface of the driving means."

When this disclosure is compared with the independent claims of the '037 patent, claims 1 and 6, along with the foregoing diagram, the only difference between the two inventions is seen to be the location of the magnetic means relative to the drive means. In the '037 patent the claims

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in issue describe the magnetic means as being disposed *externally* of the driving means while Heinze shows the magnetic means as being disposed *internally*, that is, between the drive discs.

The Heinze patent was never cited nor referred to by the patent examiner during the prosecution of the '037 patent, but was referred to (by number only) in the specification of the '037 patent.⁷⁶ Heinze is clearly more pertinent than the references cited by the patent examiner, particularly since none of the cited patents discloses a monoroll spindle. The principal prior patent relied upon by the patent examiner, Schrenk, No. 2,855,750, discloses a biroll spindle in which the spindle is driven by direct contact with a belt rather than by the rolls thus eliminating multiplication effect and discloses no magnet for holding the spindle against the edges of the guide rolls. Had Schrenk been the only prior art available, the examiner could be sustained. In addition to Heinze, however, there was other clearly pertinent art available which was not cited by the examiner.

Although the parties disagree as to the effect of the reference to Heinze in [754] the specification of the '037 patent,⁷⁷ it is clear that the patent examiner never focused

⁷⁶ It seems to be standard operating procedure for many practitioners before the Patent Office to downplay any prior art which might constitute an obstacle to patentability. See, for instance, Footnote 41, *supra*, and *Robbins Company v. Dresser Industries, Inc.*, 554 F.2d 1289, 1292 (5th Cir. 1977), a practice which this court finds highly questionable in view of the high standards of forthrightness and candor required of such practitioners.

⁷⁷ Assuming without deciding that mention of a prior art patent in the specification is equivalent to citation to the examiner, the cita-

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on the critical issue presented by the Heinze patent, namely, whether it is inventive merely to dispose the magnetic poles *externally* of the drive discs rather than between them. Since that is the primary difference between the claims at issue and Heinze, validity of the '037 patent is dependent upon the patentability of that relocation of the magnetic elements with the claimed enhancement of spindle stability and speed.⁷⁸

Plaintiffs' expert, Mr. Denis Mattingly, established to the court's satisfaction that the magnetic holding arrangement of the Heinze patent is in principle the same as that of the Klinger and ARCT monorolls, and he built a model to illustrate the workings of the Heinze device.⁷⁹ His model

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tion of the most pertinent prior art does not preclude a judgment of invalidity where such is conclusively established. See *Deering Milliken Research Corporation v. Beaunit*, 538 F.2d 1022 (4th Cir. 1976).

⁷⁸ Defendants also assert that the '037 patent differs from Heinze in that it teaches and claims a novel configuration of chamfered magnet pole tips with faces having approximately the diameter of the spindlette. The file wrapper (PX 819) indicates that this feature was rejected by the patent examiner as not being inventive. The argument was abandoned, and the patent issued with the placement of magnets as its asserted inventiveness. Patentee is not free to urge here what was rejected there. *Micro-probe, Inc. v. Wentworth Laboratories, Inc.*, 431 F.Supp. 238 (C.D.Cal. 1977). *General Mills, Inc. v. Standard Brands Inc.*, 431 F.Supp. 687 (E.D.Tenn. 1977).

Nor do defendants' assertions that their device requires less power and operates more quietly equate with patentability. The more efficient use of power over the biroll spindle would certainly have been obvious to a person of skill in the art at the time of the patenting of the monoroll spindle, while quietness of operation appears to have been an unexpected result nowhere disclosed or claimed.

⁷⁹ Defendants criticized the model made by Mr. Mattingly to illustrate his testimony, contending that he both departed from the teachings of Heinze and followed the teachings of the '037 patent in

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(PX 870) demonstrates that its spindle is held in the same manner as specified in the '037 patent and is secured against both rotational and axial movements. Mr. Mattingly demonstrated that the spindle may be perfectly stable while rotating. He further operated the model to show that any instability in the Heinze arrangement was due not to the location of the magnetic poles between the drive discs, but to the use of flanged spindles which broaden and weaken the magnetic field. Despite the fact that he admitted that the Heinze spindle was probably not intended to run at more than 5,000 or 10,000 rpm in 1901, his model was subsequently operated in the courtroom at spindle speeds above 50,000 rpm without wobbling or instability of the spindle.

The court finds that the stability of a monoroll spindle is determined by the complex interrelationship between the dimensions of the spindle, the drive roll and the distance

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making his model. Specifically, they contend that the smooth spindle employed by Mattingly (PX 871) is not specifically described in the Heinze patent; that it is not entirely magnetizable, but instead, has non-magnetic ends, while the spindle described in Heinze appears to be completely magnetizable; and that the magnet pole tips on the model (PX 870) were slightly flattened, the pole tips in the Heinze patent drawings appear almost pointed. Each of the differences of which defendants complain appeared in the prior art, if not in the Heinze patent itself, well prior to the earliest invention date upon which defendants can rely for the '037 patent. With respect to defendants' objection concerning the pole tips, it is undisputed that flattened pole tips were used in the prior biroll spindles which Crouzet used as the starting point for the '037 patent. Also, the spindlettes for biroll spindles were only partially magnetizable. In fact, they had a magnetic center portion and non-magnetic ends. Finally, smooth spindlettes were well known in the prior art prior to 1963. Indeed, Crouzet's sketch of the "Ackermann spindle", which was known to him prior to his invention, illustrates a smooth spindlette. The court accepts Mr. Mattingly's testimony that in making his model he did not utilize any knowledge which he did not possess as early as 1962.

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between magnetic poles, and not by the mere location of the magnet poles. If any instability of the Heinze spindle [755] could in fact be attributed to the location of the magnets internally, however, it would not require inventive genius for an ordinary mechanic to try disposing the magnets externally in an effort to correct the problem. It would be obvious, even to a lay person, that a stick grasped in the middle would not have the same stability as it would have if grasped at each end. *See Robbins Company v. Dresser Industries, Inc.*, 554 F.2d 1289 at p. 1294 (5th Cir. 1977).

Another reason why it would be obvious to move the magnets outside the drive rolls relates to efforts of the textile machinery manufacturers in the late 1950's and early 1960's to satisfy the increasing demands of their customers for higher spindle speeds. The evidence establishes that the speed rotation of a spindle is primarily dependent upon the circumference of the spindle relative to the circumference of the driving discs or rolls. If the circumference of the spindle is one-twentieth of the circumference of the drive roll, then each rotation of the roll will produce twenty rotations of the spindle. Otherwise stated, if the drive roll is rotated at 30,000 rpm the spindle speed will be twenty times greater, or 600,000 rpm. Thus, as the diameter of the spindle is made smaller in relation to the diameter of the drive roll, the speed multiplication becomes larger, and greater speeds may be achieved without exceeding the practical operating speeds of the drive roll bearings.

Following these basic laws of physics, a person of ordinary skill in the art equipped with knowledge of Heinze's

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disclosures, the well known biroll magnetic spindles⁸⁰ and the false twist process who desired to achieve higher spindle speeds would have made the Heinze spindle smaller in diameter relative to the drive rolls and would have made the length of the spindlette proportionately shorter, thereby requiring a decrease in the distance between the discs of the Heinze arrangement. As a result of the decrease in distance between the discs, there would have been less room for the magnet, thus rendering it an obvious engineering necessity to move the magnet outside the discs.

The witness Mattingly, who has patented fifty or more inventions in the field of textile machinery, developed the first commercially satisfactory monoroll spindle for the Klinger Manufacturing Company during 1963-1964. When he did this work in Great Britain he was unaware that the Heinze patent existed, and at the trial he testified:

“Q. When you first saw the Heinze patent what was your reaction?

A. My reaction was that it really covered everything that was in the monoroll and that I hadn't really invented anything.”

He further testified, and the court finds that it was merely a matter of engineering convenience as to where the magnet and its poles were located.

⁸⁰ United States Patent No. 3,313,096 issued to Marciniak (PX 869) discloses a biroll spindle where the magnet means are disposed *externally* of the drive means. Marciniak also discloses disposing the magnet means *internally* of the drive means. Marciniak claims priority in France of April 19, 1963 which is prior to the '037's earliest priority date of April 26, 1963. When considered with the Heinze arrangement (PX 771), Marciniak suggests that it would have been obvious to one of ordinary skill in the spindle art to place the magnet means of Heinze either inside or outside the drive discs.

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In summary, the evidence indicates that the relocation of the magnet means from between the drive discs in the Heinze patent to a location outside the drive discs presented no problems, solved no particular problems, was primarily a matter determined by choice, engineering and practical convenience, was within the skill of those of ordinary skill in the spindle designing field and would have been obvious to a spindle designer of ordinary skill in the art who had knowledge of the Heinze patent prior to [756] April, 1963.⁸¹ Accordingly, the '037 patent is invalid for obviousness under 35 U.S.C. § 103.

Enforceability of the '037 Patent.

Even if the '037 patent were valid there would remain a serious question of whether defendants are entitled to enforce it. The issue has been briefly covered heretofore in the section on patent misuse (see text and footnote 40, p. 701 *supra*), and the facts and law relating to the acquisition by Chavanoz of the '037 patent will be more fairly developed at this time.

The '037 patent which issued on February 1, 1966, differs from the other patents in suit in that it was prosecuted by and issued to ARCT-France whose president, Henri Crouzet, was the inventor of record. Although both Chavanoz and DMRC were aware of the '037 patent application and the ensuing patent as early as the mid-1960's neither made any overt attempt to bring it within the

⁸¹ Although the record reveals that the monoroll spindle was a useful and profitable embodiment used extensively by the plaintiffs in this action, evidence of commercial success and long-felt need is unavailing to a patentee where, as here, invention is clearly lacking. *A & P Tea Company v. Supermarket Corporation*, 340 U.S. 147, 153, 71 S.Ct. 127, 95 L.Ed. 162 (1950).

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scope of the then existing license agreements. In fact, Chavanoz advised DMRC in December of 1964 that the monoroll spindle application did not fall within the scope of the grant-back clause in the Chavanoz-ARCT contract and therefore there was no basis for including the spindle patent in the package of patents being licensed to Throwsters at that time (PX 389). DMRC apparently acquiesced in this, for prior to 1970 Appendix A to the DMRC standard license agreement never listed the '037 patent. Furthermore, between 1964 and 1969 ARCT-France without objection from Chavanoz or DMRC exercised complete dominion and control over the '037 patent as evidenced by its entry into contractual agreements with two other textile machinery manufacturers, Klinger and Heberlein, involving monoroll spindles and the ARCT patent.

Shortly after the first of the lawsuits here involved was instituted Armitage of DMRC telegraphed de Moncuit, president of Chavanoz, on December 16, 1969, that it was "tremendously important" that the '037 patent rights be assigned to Chavanoz because it was "necessary that this patent be named in bringing infringement suits this week." In a similar vein, Leo Soep, Chavanoz's "conseil en brevets," wrote Crouzet of ARCT on December 2, 1969, that "it is essential that sub-license agreements comprise the maximum number of patents from the beginning of the proceedings—it would be awkward to add more in the course of proceedings . . ." On December 17, 1969, ARCT-France and Chavanoz entered into an agreement whereby ARCT-France granted to Chavanoz an exclusive, royalty-free license for the use of the magnetic spindle described in the '037 patent with the right of sub-license to DMRC.

Apparently because its United States counsel remained doubtful about the sufficiency of this agreement between

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ARCT-France and Chavanoz (PX 400 and PX 401), Chavanoz prevailed upon ARCT-France to enter into a new agreement in October of 1970 in which it was acknowledged that ARCT had obtained and held title to the patent as "trustee for the account of Chavanoz and for the latter's benefit." On November 4, 1970, ARCT-France formally assigned the '037 patent to Chavanoz, and pursuant to 35 U.S.C. § 261 the assignment was recorded in the United States Patent Office on November 16, 1970.

Plaintiffs assert that these facts give rise to an implied right to use all monoroll spindles purchased from ARCT-France prior to November 4, 1970. Contrarily, defendants argue that Chavanoz always held equitable title to the '037 patent because of the grant-back provisions of its 1962 agreement with ARCT-France (see p. 662, *supra*), and that accordingly, since ARCT never possessed the right to use the patent, it could not have impliedly conveyed any such right to plaintiffs.

[757] As more fully explored previously in this memorandum (see p. 669, *supra*), it is settled law that a patentee who manufactures and sells a patented product *without* an express reservation of use rights impliedly conveys to the purchaser the right to full and unrestricted use of the product. *Baker-Cammack Hosiery Mills v. Davis Company*, 181 F.2d 550 (4th Cir. 1950); *St. Joseph Iron Works v. Farmers Manufacturing Company*, 106 F.2d 294 (4th Cir. 1949). Thus if ARCT held unencumbered title to the '037 patent prior to the formal assignment in 1970, it appears that plaintiffs' argument is well founded.

The court is not persuaded that the attempts by defendants Chavanoz and DMRC to back-date title to the '037 patent to Chavanoz were effectual. To begin with, there is

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no evidence that ARCT-France failed to disclose its work on the monoroll spindle to Chavanoz as arguably required by paragraph 4 of the 1962 agreement. Thus Chavanoz's failure to prosecute the patent application can only be construed as reflecting its understanding that this patent was properly left to ARCT-France under the terms of the agreement, and as earlier indicated, this interpretation is supported by contemporaneous documents. Furthermore, Chavanoz and DMRC with full knowledge of both the ARCT-France-Chavanoz agreement and the applications for and eventual issuance of the patent on the monoroll spindle, acknowledged ARCT's ownership of the patent by failing to object when ARCT alone entered into license agreements under the patent with Klinger and Heberlein. As we have seen, the construction put on the contract by the parties is entitled to great weight. Thus the court is of opinion that the agreement of November 4, 1970, between the ARCT-France and Chavanoz did not as a matter of law give Chavanoz equitable title to the '037 patent, and neither did such title impliedly arise from the conduct of the parties between 1964 and 1969.

Chavanoz's attempt to cure this deficiency by effecting a retroactive assignment of the patent from ARCT-France to Chavanoz was ineffective. Whatever effect such an agreement may have as between the parties to it, a *nunc pro tunc* assignment without basis in fact cannot be used to defeat the intervening rights of bona fide purchasers from the legitimate owner. Thus the court reiterates its holding that even if the '037 patent is valid, all monoroll spindles acquired and ordered by the plaintiffs prior to November 4, 1970, are in any event immune from defendants' claims of infringement.

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The court is further of the opinion that the wrongful attempt by Chavanoz to acquire this patent solely for the purpose of asserting it against the plaintiffs in this action and the continued prosecution of the infringement claims based thereon throughout this litigation constitute patent misuse which remains unpurged, and the '037 patent is therefore not enforceable against any plaintiff in this action.

"The guiding doctrine in this case is the equitable maxim that 'he who comes into equity must come with clean hands.' This maxim is far more than a mere banality. It is a self-imposed ordinance that closes the doors of a court of equity to one tainted with inequity or bad faith relative to the matter in which he seeks relief, however improper may have been the behavior of the defendant. That doctrine is rooted in the historical concept of court of equity as a vehicle for affirmatively enforcing the requirements of conscience and good faith. This presupposes a refusal on its part to be 'the abetter of iniquity.' . . . Thus while 'equity does not demand that its suitors shall have led blameless lives', . . . as to other matters, it does require that they shall have acted fairly and without fraud or deceit as to the controversy in issue . . .

"This maxim necessarily gives wide range to the equity court's use of discretion in refusing to aid the unclean litigant. It is 'not bound by formula or restrained by any limitation that tends to trammel the free and just exercise of discretion.' . . . Accordingly one's misconduct need not necessarily have [758] been of such a nature as to be punishable as a crime or as to justify legal proceedings of any character. Any willful act concerning the cause of action which rightfully can be said to transgress equitable standards of conduct is sufficient cause for the invo-

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cation of the maxim by the chancellor." *Precision Instrument Manufacturing Company v. Automotive Maintenance Machinery Company*, 324 U.S. 806, 814-15, 65 S.Ct. 993, 997, 89 L.Ed. 1381 (1945).

* * * * *

In addition to the facts found by the court in its treatment of the '037 patent the court adopts as its own the following proposed findings of fact submitted by the parties on the patent issues:

1. On the issue of obviousness: plaintiffs' proposed findings 11.1.1-11.1.3 inclusive; 11.1.6; 11.1.7; 11.2.1-11.2.7 inclusive; 11.2.9-11.2.17 inclusive; 11.3.4 and 11.3.6.

Defendants' proposed findings of fact 1-5 inclusive; 9, 14-25 inclusive; 28, 29, 32, 54, 55, the first sentence of 78, and 91.

2. On the issue of enforceability: plaintiffs' proposed findings 11.4.1-11.4.9 inclusive.

Patent No. 3,283,414

United States Patent No. 3,283,414 was issued to Henri Crouzet on November 8, 1966, on an application filed March 4, 1964. No foreign patent priority date was claimed. The patent discloses an apparatus for drawing off fumes and warm air from the top of a heater tube on a false twist texturing machine, separating (by condensation) the fumes from the warm air and recirculating a portion of the warm air to the bottom of the heater through a pressure chamber at its base. The apparatus thereby provides a continuous flow of recirculating warm air, using the retained heat of the air to conserve energy and its pressure to propel additional heavy fumes from the heater to the condenser for collection and condensation in a continuing cycle. This action is demonstrated in the diagram of a cross-section of the apparatus shown below.

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The patent specification describes the action thus:

"As shown in figure 1 a tube 1 thermally insulated by an insulating casing 2 and fed by an electric source 3 is connected as its base to a relatively large chamber 4 for the admission of compressed air. The said chamber 4 is formed with a small inlet orifice 5 in its base.

* * * * *

"A fan 6 sucks in atmospheric air and the fumes leaving the tube 1 through pipe 7 and delivers this air again to the tube 1 through a pipe 10 connected to the chamber 4 by a duct 9. A calibrated valve 8 provided in the pipe 10 or in the chamber 4 allows a pre-determined amount of the excess air delivered by the fan to escape into a discharge chimney 10. The valve 8 is adjusted as a function of the desired speed of the air within the [759] tube 1, this speed being in turn a function of the pressure in the chamber 4."

The '414 patent is directed at the problem encountered in texturing yarns caused by "spin finish", a coating of lubricant applied by fiber producers to the yarn just prior to its being wound on a package for shipment to customers. This lubricant is designed to make the yarn easier to handle in subsequent operations such as weaving. When the yarn is subsequently heated to high temperatures, as during false twist texturing, spin finish is vaporized and converted into fumes having a smoke-like appearance. Such fumes usually rise toward the exit end of the heater of the false twist machine, sometimes condensing in and contaminating the heater, and sometimes escaping to pollute the atmosphere within the mill.

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The problem facing the Throwsters and false twist machinery manufacturers in the early 1960's was of dual dimension: first, the heaters, adjoining elements and yarn had to be protected from condensed vapors; and second, employees had to be protected from the smoke and vapors which were ejected into the atmosphere in increasing quantities as production speeds increased and producers turned to heavier denier yarns.

Defendants contend that the '414 recirculating condenser constituted a novel solution to the spin finish problem and was a radical departure from any prior device both in approach and effectiveness. The plaintiff Throwsters, on the other hand, contend that the patent is invalid as anticipated (35 U.S.C. § 102) or as obvious (35 U.S.C. § 103); alternatively they contend that the patent, even if valid, is not infringed. Both the validity and infringement issues will be considered.

Validity of '414.

Plaintiffs contend that the alleged invention of the '414 patent was not new or unobvious in view of the disclosures of Scragg Patent No. 3,066,471 (PX 754), Ferre Patent No. 2,005,580 (PX 759), and Long Patent No. 2,445,443 (PX 755), all of which issued prior to the filing date of the '414 patent.

Plaintiffs further assert that Chavanoz and the inventor, Crouzet, were aware that ARCT offered for sale in the United States more than a year prior to the application for the '414 patent a false twist machine with a non-recirculating fume removal system. In their closing argument plaintiffs abandoned their claim that a recirculating system was "on sale" within the meaning of 35 U.S.C. § 102(b)

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so as to render the '414 patent invalid on that ground, but they continue to contend that the non-recirculating system which was offered by ARCT in 1962 constitutes pertinent prior commercial art which was not disclosed to the examiner and which, if disclosed, would have rendered the recirculating system obvious to one skilled in the art.

It is undisputed that neither the Scragg patent, No. 3,066,471, nor the Ferre patent, No. 2,005,580, was disclosed to the patent examiner, nor was the prior use of a fume exhaust system on ARCT machines disclosed to him. Nonetheless, these deficiencies do not render the '414 patent invalid.

The Scragg patent was an apparatus for removing fumes generated in the heater of a false twist machine by use of a suction tube located at the exit end of the heater. Likewise the 1962 ARCT device used prior to the recirculating condenser was a suction-type smoke extractor. Other smoke extraction devices were devised by Leesona and other manufacturers. Smoke extractors and exhaust systems generally took whatever vapors that were drawn from the heater by the natural chimney effect of the vertical heaters, or by this chimney effect in combination with laterally disposed suction devices and ejected them as far from the machinery as possible. Those of ordinary skill in the art in the early 1960's were utilizing smoke extractors and various ventilation systems as a solution to the smoke or vapor problem.

Although these various smoke extractors were not specifically disclosed to the patent examiner, the '414 patent indicates:

"In order to obviate the liberation of fumes into the atmosphere, use is generally made of smoke ex-

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tractors. In such [760] cases, condensation in the heating elements, which are generally vertical, is avoided by using either detachable condensers, which are thus easy to clean, or of heating devices having a sufficient cross-section to permit the natural occurrence of a chimney effect, which produces a movement of air whereby the greater part of the heavy fumes is entrained and their condensation in the heating elements is also partially avoided." (U.S. Patent No. 3,283,414, Column 1, Lines 29-38, PX 4.)

Smoke extractors utilizing suction were also disclosed and described in Larson United States Patent No. 2,434,169, which was cited by the examiner in connection with the application. In light of these disclosures the court finds that more specific disclosure of the smoke extraction devices was unnecessary and is irrelevant to the consideration of the validity of the '414 patent.

The Ferre patent was also not disclosed to the examiner and is the primary patent upon which plaintiffs base their arguments of anticipation and obviousness. Ferre is an embodiment for coating copper wire and drying the coating thereon. It also discloses a different structure for the drying of sheet material by means of a drying oven with air introduced at both ends. The patent uses a venturi system⁸² which, when built into entrance and exit ports of a specially designed oven, causes escaping air to lose pressure and be stalled by outside air at atmospheric pressure. The object of the Ferre patent is "to prevent the escape of drying air and vapors . . . from the drying chamber." While the problems sought to be solved by the

⁸² A venturi device works on the principle of having two pipes, one inside the other and the smaller one terminating inside the larger. By blowing air through one pipe a suction is created that draws air in through the other pipe.

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two patents are similar, the court is not convinced that the Ferre solution bears such close resemblance to the '414 patent as to sustain a finding that Ferre anticipates '414.⁸³

United States patents issued to Herrmann, No. 2,090,352, and Long, No. 2,445,443, were also cited by the examiner in the '414 application. One of plaintiffs' experts, Mr. Gurley, admitted that Ferre was no more relevant to the '414 patent than the Long patent in that both show the circulation of air and recovery of vapors. During the trial it was not seriously contested that the patents issued to Herrmann and Long were distinguishable from the claimed features of the '414 patent. These patents are concerned with different problems (handling vaporized water rather than heavier oil fumes), deal with lower heating temperatures and are not concerned with close temperature control. The Herrmann patent, in fact, discloses no recirculation of air, heated or otherwise, through the drying tube.

The apparatus disclosed in the '414 patent was not anticipated by the Ferre patent nor would '414 have been obvious to one of ordinary skill in the art who had before him the Ferre and Long patents with either the Scragg patent or with other commercially available smoke extractors. The recirculating condenser disclosed in the '414 patent was more than a smoke extractor. It disclosed a method for controlling heater condensation and removing the vapors from the top of a heater tube by the use of recirculated, pressurized and heated air. Additionally, the '414 patent utilized heat otherwise lost in a ventilating

⁸³ The disclosures and claims of Ferre and '414 are fairly contrasted in defendants' supplemental proposed findings of fact VII-88 which the court later adopts as its own.

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device to maintain the temperature within heater tubes with a consequent lower consumption of energy. Although it was not a pioneer patent, it offered a novel solution to an industry-wide problem at a time when others skilled in the art were looking to smoke extractors, ventilators and improved ventilation filters. It was not obvious in the mid-1960's to solve the spin finish problem either by the use of recirculated, heated air freed of vapors by condensation or by the use of this recirculation system in combination with pressurized air to drive the heavier, oil-laden fumes from the heater tubes. The court concludes that United States Patent No. 3,283,414 is valid.

Infringement of the '414 Patent.

Having concluded that the '414 patent is valid, the question of infringement remains. The burden of proof on this issue rests with the defendants Chavanoz (patentee) and DMRC (use licensor). It is admitted that a recirculating fume removal device was found on the FT-3, FT-400 and FT-411 machines purchased by some of the plaintiffs. It is seriously disputed, however, that the device on these machines infringes the '414 patent.

Claim 1 of the '414 patent reads:

"Apparatus for recovering the vapors evolved in the high temperature treatment of textile filaments containing volatile oils comprising a heating tube through which said filaments pass having means for heating said filaments to a temperature to vaporize at least a portion of the oil carried thereby, a pressure chamber disposed at the inlet end of said tube and adapted to carry air under pressure to cause circulation thereof through said tube to discharge end thereof, a condenser means *connected* to the discharge end of said heating tube, means causing cir-

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ulation of air from said pressure chamber through said heating tube and through said condenser means for removing and condensing vapors from said heating tube, and means recirculating a portion of the air from said condenser means to said pressure chamber." (Emphasis added.)

Claims 2, 3 and 4 of the '414 are all dependent on claim 1 and would not be infringed if claim 1 were not infringed.

Plaintiffs' defense of non-infringement is based on the contention that the manufactured device does not have "a condenser means connected to the discharge end of . . . [the] heating tube," as the claim requires. Plaintiffs seize upon the word "connected". Chavanoz and DMRC, on the other hand, contend that the claims of the '414 patent do not require a physical connection between the heater tube and the suction port. They argue that the direct flow of fumes from the heater tube to the suction port provides the necessary "connection".

Defendants' contention ignores the patent drawing (see figure 1, *supra*) which clearly shows a physical connection between the heater tube and the suction tube of the condenser section, the patent specification, which refers to the "junction" of the tubes and the testimony of the inventor himself. Read in light of the drawing and specification, the reasonable interpretation of the term "connected" in claim 1 is that the condenser means and the heater tube are "physically connected."

Important evidence as to the meaning of the disputed term "connected" was provided at trial in the deposition testimony of the inventor, Henri Crouzet. He testified that the term "connection" in the context of the '414 patent meant a mechanical arrangement or a physical connection.

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By comparison, regarding his corresponding French patent, No. 1,363,920, he testified that there was a "liason" constituted by the movement of air (Tr. 41, pp. 8231-38).

The claims of the '414 patent do not describe the apparatus found on the FT-3, FT-400 and FT-411 machines purchased by some of the plaintiffs since the "condenser means" and the "discharge end of the heater tube" in those accused machines are not physically "connected." Therefore, there is no literal infringement of the '414 patent.

But Chavanoz and DMRC contend that, even if the claims require a physical connection, the fume exhaust systems on the plaintiffs' machines function in substantially the same way as the system disclosed in the patent, and therefore the '414 patent is infringed under the "doctrine of equivalents."⁸⁴ A patentee may invoke the doctrine [762] to proceed in an infringement action against an accused device if it performs substantially the same function in substantially the same way to obtain the same result. See *Graver Tank & Manufacturing Company v. Linde Air Products Company*, 339 U.S. 605, 70 S.Ct. 854, 94 L.Ed. 1097 (1950).

The court finds that fumes and heated air exiting from the heater are in fact drawn into a suction duct located less than two inches from the heater exit. Fumes flow directly, continuously and even visibly, along this route. Some heated air is recirculated through the condenser part of the system to the entrance end of the heater and pres-

⁸⁴ The doctrine of equivalents is an equitable doctrine the essence of which is that one may not practice a fraud on a patent. The doctrine is intended to discourage unscrupulous copyists who would otherwise make unimportant and insubstantial changes or substitutions which add nothing but would take the copied matter outside the protection of the patent law.

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surized air is utilized to move the heavy fumes through the heater. Despite this finding, however, the court concludes that the doctrine of equivalents should not be invoked to establish infringement of the '414 patent here. Consideration of the following three factors have led to this conclusion.

First, Crouzet knew of the unconnected recirculating fume removal system at the time he filed the United States patent application. He had previously filed an application in France in which he claimed an unconnected system. He testified that he deliberately claimed a connected system in the '414 application because he thought the connected system was a better one and that he directed the changing of the specifications and drawings in the United States application. He believed that the connected system constituted a minor change but resulted in more efficient operation. The court finds from plaintiffs' evidence that Crouzet's assumption was correct and that the unconnected system is not the physical or functional equivalent of the connected system for that (1) the unconnected system increases heat losses to the atmosphere; (2) the unconnected system increases the intake of ambient air, reduces the recirculation of heated air and thereby negates the temperature uniformity sought since the temperature of the air supplied at the bottom of the heater tubes fluctuates widely; and (3) an operator's ability to control temperature or pressure by means of the control valve is reduced substantially in an unconnected system.

Defendants adduced no evidence showing how a connected system would work as compared to the unconnected system, instead limiting their evidence to opinion testimony of their experts that the two systems were functional equivalents. There is no doubt that the two systems accomplish the

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same result, but the doctrine of equivalents is not invoked merely upon a showing of similarity of end results. *Cimioti Unhairing Company v. American Fur Refining Company*, 198 U.S. 399, 25 S.Ct. 697, 49 L.Ed. 1100 (1905). Defendants have not established by a preponderance of the evidence that the unconnected system is the physical or functional equivalent of the connected system disclosed and claimed in the '414 patent.

As a second basis for finding a lack of infringement the court notes that the doctrine of equivalents has no application where one of the elements called for is entirely omitted. *Sears, Roebuck & Co. v. Minnesota Mining & Manufacturing Company*, 249 F.2d 66 (4th Cir. 1957). In the fume removal apparatus present on the ARCT machines there is no "condenser means connected to the discharge end of . . . [the] heating tube." In a combination patent claim, the applicant includes elements at his peril. A court cannot relieve the patentee of the mistake of "reciting elements which are superfluous to patentability; his only remedy is reissue, and even this must be done within two years after the original grant." *Berkey Photo Inc. v. Klimsch-Repro, Inc.*, 388 F.Supp. 586 (S.D.N.Y.1975). As was stated by the Supreme Court in *Water-Meter Company v. Desper*, 101 U.S. 332, 25 L.Ed. 1024 (1879), at 337:

"It may be observed, before concluding this opinion, that the courts of this country cannot always indulge the same latitude [763] which is exercised by English judges in determining what parts of a machine are or are not material. Our law requires the patentee to specify particularly what he claims to be new, and if he claims a combination of certain elements or parts, we cannot declare that any one of these elements is immaterial. The patentee makes

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them all material by the restricted form of his claim. We can only decide whether any part omitted by an alleged infringer is supplied by some other device or instrumentality which is its equivalent."

Finally, the court concludes that the doctrine of equivalents has no application in the factual situation presented in this case. One is not confronted here with an unscrupulous copyist who has made unimportant changes in a combination patent in an attempt to avoid literal infringement. Instead, we have an inventor who, on March 5, 1963, made application for French Patent No. 1,363,920 which discloses a recirculating type fume exhaust. In his French patent this system is shown without any connection between the condenser and the heater tube. This is the embodiment which the inventor's company undertook to sell in the United States. While the United States application was filed within the one-year period specified by 35 U.S.C. § 119, no claim for priority of the French application was made. The inventor, Crouzet, testified that he claimed a connected system in the '414 patent because he thought it was a better system than the unconnected system embodied in the machines he sold in the United States. His assignees, the defendants here, will not now be heard to contend that the two systems are the same.

It is a basic tenet of United States patent law that the claims measure the invention. That which is not claimed in a patent is presumed to be abandoned to the public.

"A patentee makes his own bargain; he demands what he thinks to be the just measure of his contribution; and he abandons to the public all that he does not reserve in his claims." *Ajello v. Pan-American Airways Corporation*, 128 F.2d 196, 197 (2nd Cir. 1942).

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As the Supreme Court stated in *McClain v. Ortmyer*, 141 U.S. 419, 12 S.Ct. 76, 35 L.Ed. 800 (1891), at 423-24, 12 S.Ct. at 77:

“While the patentee may have been unfortunate in the language he has chosen to express his actual invention, and may have been entitled to a broader claim, we are not at liberty, without running counter to the entire current of authority in this court, to construe such claims to include more than their language fairly imports. Nothing is better settled in the law of patents than that the patentee may claim the whole or only a part of his invention, and that if he only describe and claim a part, he is presumed to have abandoned the residue to the public. The object of the patent law in requiring the patentee to ‘particularly point out and distinctly claim the part, improvement or combination which he claims as his invention or discovery,’ is not only to secure to him all to which he is entitled, but to apprise the public of what is still open to them.”

There is no legally recognizable or protectable “gist” or “heart” of the invention in a combination patent. *Aro Manufacturing Company v. Convertible Top Replacement Company*, 365 U.S. 336, 345, 81 S.Ct. 599, 5 L.Ed.2d 592 (1961). In fact, references to infringement of a patent are misleading since “what is infringed is a claim, which is the definition of invention, and it is the claim which is the cause of action.” *Fulton Company v. Powers Regulator Company*, 263 F. 578, 580 (2nd Cir. 1920). The patentee here could have made a broader claim that would have covered both the connected and unconnected recirculating condenser systems. Alternatively, within two years of issuance he could have applied for re-issue of the patent under 35 U.S.C. § 251 since it is the express purpose of that statute

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to permit an applicant who has claimed less than he had a right to claim in the original patent to enlarge the scope of the claims. *See Application of Salem*, 553 F.2d 676 (Cust. & Pat.App. 1977). Here the patentee did neither. He submitted a limited [764] claim and his company manufactured and sold a machine containing a device which did not come within the limits of the claim allowed. In this situation there is no infringement.

In summary, the court concludes that the '414 patent is valid but that the machines sold the plaintiffs did not embody an essential feature claimed in the patent. Therefore it is not infringed by these plaintiffs.

• • •

In addition to the facts found by the court in its treatment of the '414 patent the court adopts as its own the following proposed findings of fact submitted by the parties on the patent issues:

1. On the issue of validity: plaintiffs' proposed findings 12.3.6-12.3.8 inclusive; 12.3.9, with the exception of the last sentence; 12.3.11, with the exception of the last sentence.

Defendants' proposed findings VII-2, 3, 6, 9, 12, 13, 15, 17, 18, 25, 26, 28, 29, 49, 50-54 inclusive; 57-59 inclusive; 62, 63, with the exception of the third and sixth sentences, and defendants' supplemental proposed finding No. 88 (pp. 33-36).

2. On the issue of infringement: plaintiffs' proposed findings 12.2.1-12.2.12 inclusive; 12.2.13-12.2.15 inclusive.

Defendants' proposed findings 33-38 inclusive.

Patent No. 3,584,450

United States Patent No. 3,584,450 issued on June 15, 1971, to Chavanoz as assignee of Henri Crouzet. A priority

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date of March 29, 1968, was claimed based on the French patent counterpart of this invention. The '450 patent issued several years after the commencement of this litigation and was not included, either as a patent or application, in any of the license agreements between DMRC and the plaintiff-Throwsters.

The '450 patent discloses a conventional false twist heater and spindle and a series of three guides around which the yarn passes as it travels from the heater to the spindle. The guides are located so that the yarn passes from the heater exit downward and parallel to the outside face of the heater and then upward toward the false twist spindle. The stated purpose of the arrangement is to make the yarn path between the heater and the spindle longer so that the yarn has additional time to cool or set before twist is removed at the spindle, and to permit a lower tension on the yarn in the heater while a higher tension is maintained on the yarn as it passes the spindle. The drawing of the patent shown below indicates that the yarn bends around the various guides making turns totaling about 360° before reaching the false twist spindle.

[765]

[DIAGRAM OMITTED]

The patent describes the operation of the device as follows:

"In accordance with the figure, a yarn 1 goes through a heating element composed of a curved pipe 2 of small caliber which is directly heated by an electric resistance . . .

"Pipe 2 is placed inside of a heating box 6 which is rotatively mounted around a pivot 7, offset with

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respect to the axis of the passage of the yarn 1 in the false twist spindle 8. At the exit of the heating box 6, the yarn passes over fixed biconical guides 3, 4 and 5. Guide 5 is preferably adjustable in its position, for example at 5', thus permitting varying of the length of the loop according to the operating conditions such as winding speed, titre of the yarn, etc.

"It is thus possible, either to leave the yarn 1 directly in the axis of the false twist spindle 8 (dotted lines: position 6' of the box), or to slightly tilt the box 6 and to form a long loop by passing the yarn over return members 3, 4 and 5.

"The fixed box is locked into any of the positions indicated by any known means (not shown)."

The patent states that the passage of twist from the spindle to the heater is "substantially unrestricted" by the three guides shown in the diagram. These guides are composed either of "small wheels idly (freely rotating) mounted on a fixed axle or (non-rotating) biconical fixed guides," preferably made of hard ceramic material. The claims of the patent broadly define the arrangement as "guide means positioned in the yarn path between the false twisting means and the heating means" (claim 1) or as "a plurality of spaced guides" (claim 6).

The patent also states that the heater box is pivotally mounted at its bottom so that the heater exit may be "selectively positioned" in vertical alignment with the false twist spindle in the event that it is desired to bypass the guide means and operate with a straight yarn path from the heater to the spindle. This action is shown by the dotted lines in the diagram, and this feature of selectively positioning the heater in alignment with the false twist spindle is

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referred to in several of the claims, including dependent claim 2 and independent claim 7.

Defendants claim several advantages for the invention. In addition to allowing [766] greater cooling time for the yarn and thus allowing the machine to be run faster, defendants assert that the extended cooling path taught by the patent permits the build-up of tension between the heater and the spindle and also permits the twist put in the yarn by the spindle to pass back freely into the heater so that the tension at the bottom of the heater will be approximately half the tension below the spindle.

Low tension in the heater, defendants further claim, has several advantages. First, the lower the tension, the more the yarn shortens. This means that at low tension there is more yarn in the heater at once, thus exposing it longer to the heat and in effect increasing the heater length. Second, at low tension the yarn is not so tightly twisted. This results in a yarn with better "cover" in a fabric. Third, lower tension in the heater makes it possible to use a higher overfeed into the heater and produces a yarn with higher crimp contraction or bulk level without loss of strength. To get higher crimp contraction without the cooling zone bulking attachment, defendants contend, it would be necessary to put more twist into the yarn, thus reducing its strength.

Other advantages claimed by the defendants for the '450 patent are that the cooling zone also provides sufficient tension at the spindle to cause the twist to lock properly and utilization of the invention makes it possible to operate machines faster and obtain better bulk.

Plaintiffs, while not denying all of these claimed functions for the '450 patent, aver that they are attributable

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not to any inventive genius expressed by a simple rearrangement of elements admittedly old in the art, but at best constitute only an answer to a self-created problem of ARCT-France which resulted from an inexplicable shortening of the space between the heater exit and the spindle on its machines at a time when other manufacturers were lengthening this space on their machines in order to achieve additional cooling of the yarn made necessary by increased spindle speeds. In short, plaintiffs assert that the patent is void under Sections 102 and 103 of the patent laws.⁸⁵

Validity of the '450 Patent: Anticipation and Obviousness.

From the earliest days of false twist texturing the necessity for cooling the yarn between the heater and the false twist spindle was recognized, and as spindle speeds increased making it possible for the yarn to pass through the machine faster there was less time for the ambient air to cool the yarn before it entered the spindle. Several possible solutions to the cooling problem thus created were explored. The obvious expedient of lengthening the space between the heater exit and the spindle was found unsatisfactory since in addition to increasing the height of the machine, it caused the yarn to "balloon" resulting in uneven stresses and breakage.

One of the first inventors to address these problems was an Englishman, R. S. Gilchrist, who obtained patents in Great Britain and France (PX 514 and PX 623) on a device which disclosed a ceramic biconical guide means

⁸⁵ Plaintiffs have admitted that several ARCT models owned by many of them incorporate the cooling zone bulking attachment taught by the '450 patent, and their sole defense is the alleged invalidity of this patent.

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positioned in the yarn path between the heater and the spindle of a false twist machine around which the yarn makes a helical wrap substantially in the direction of the axis of the guide. The guide in effect directs the yarn in a 360° path, thereby extending the length of the path. The patent specifically discloses that the twist runs back, substantially unimpeded, around and through the guides to the heater. It also describes the tension differential which results from the use of the guide means, that is, a lower tension on the yarn in the heater and a higher tension on the yarn at the spindle. Although additional cooling is not specifically mentioned in the specification of the Gilchrist patent, it is apparent that some such cooling will take place between the heater and the spindle. [767] The ambient air zone between the heater and spindle of every false twist machine is for the purpose of permitting cooling. It was well known in the art that the faster the yarn moved through that zone, the more cooling length would be required. The straight line path from the heater to the spindle is, of course, the shortest path through that zone. Any mechanism which would lengthen the yarn path in that zone would necessarily extend the cooling time and thereby permit some additional cooling.

Defendants suggest that the guide means disclosed in the Gilchrist patent would itself be heated by hot air rising from the heater, and therefore would not function to cool the yarn. Defendants' conjecture was rebutted by plaintiffs' expert, Mattingly, who testified that he had observed the Gilchrist device in operation on a Klinger CMG machine and that there was no such problem. In addition, another plaintiffs' expert, Mr. Gurley, testified as to tests which he performed, which showed that the temperature directly above the heater on the false twist machine returned to

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the ambient temperature within three to four inches above the heater exit when the fume exhaust system was in operation. The fact that the Gilchrist device might work better in conjunction with a fume exhaust system, or less efficiently without one, does not detract from the validity of the patent's teachings. Furthermore, Gilchrist's teaching that differential tension in the heater and spindle could be achieved by using guides in the yarn path embodied no radical new principle. It has long been known in the textile industry that the tension on a yarn is always increased by passing it around any type of fixed guide. With respect to synthetic yarns a 1954 Dupont Company technical service publication (PX 515) entitled "Yarn Preparation and Handling" explained that tension is added to a yarn any time its path is changed by a device such as a rod, bar, eyelet, pin "or anything around which a yarn is bent through an angle . . ." Dupont explained that this tension change depends upon the angle of the thread path change and the coefficient of friction of the guide material, and even provided a formula for calculating the amount of tension increase. The Dupont publication also disclosed that if the yarn is bent not only once, but several successive times, the individual tension changes will produce a large cumulative tension increase in the direction of the yarn travel.⁸⁶

In 1964-65 the Klinger Manufacturing Company of Great Britain, owner of the Gilchrist '509 patent, designed, built and offered the Klinger AM-1 machine which was designed

⁸⁶ In the initial rejection of the '450 patent application the examiner confirmed this view of the prior art by stating "To employ specific guide surfaces . . . to regulate the tension in the yarn would not be patentable since it is old to employ frictional guide surfaces for this purpose. . . ." (PX 1275). The patent subsequently issued with "unrestricted passage of twist" as its asserted distinguishing feature.

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for high-speed processing of false twist textured yarns. The AM-1 machine included a cooling zone between the heater and spindle wherein the yarn path was bent in a somewhat sinuous fashion around the yarn guides between the heater and the entrance to the false twist spindle. The total angle through which the yarn was bent was variable, but generally on the order of approximately 100°.

Plaintiffs' expert, Mr. Mattingly, testified without contradiction and the court finds that the twist provided by the spindle on the AM-1 machine passed substantially unimpeded back over the guide and through the heater, and that the passing of the yarn over the guide in the machine produced a desirable tension differential, although probably of a lesser order than that usually encountered in the ARCT machines equipped with the bulking attachment.

The guide means disclosed and claimed in the '450 patent do not coact with the heater and the spindle, or with each other, in any manner different from the guide means disclosed in the Gilchrist '509 patent. The arrangement of guides disclosed and claimed in the '450 patent provide no new function and no result not provided by the arrangement of guides disclosed in Gilchrist. [768] In both patents, the guides deflect and extend the yarn path, cause a build-up of tension in the yarn as it moves toward the spindle, thereby permitting a lower tension to be maintained in the heater, and do permit the twist in the yarn to pass substantially unimpeded from the spindle back to the heater. Thus it is seen that all of the advantages, principles and features disclosed and claimed in the '450 patent are taught by Gilchrist.

An article in a 1965 publication, "Man-Made Textiles" on the AM-1 machine (PX 111) describes some of the principles of that machine. The article clearly teaches that

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the thread path through the AM-1 machine is not straight, that the yarn path between the heater and the spindle of the AM-1 machine is substantially deflected by the guides and the photographs demonstrate that the yarn twist successfully passes around the ceramic guides between the heater and the spindle. The article states that high quality, uniform yarn is made on this machine.

On July 22, 1963, Chavanoz filed an application which on January 26, 1965, matured into United States Patent No. 3,166,881. The patent specification discloses an arrangement of three yarn guides located between the heater and spindle of a false twist machine which deflect and lengthen the yarn path. According to the drawing, the total angle through which the yarn is bent is approximately 360°. The patent teaches that one of the guides or bars can be adjustable in order to lengthen or shorten the yarn path. The patent asserts that the use of these guides provides "a greater bulk and springiness" in the processed yarn which is substantially the same result claimed by the '450 patent.

The claims of this '6881 patent, however, were limited as defendants' witnesses stress, to an arrangement wherein the guides do have a substantial restriction on the twist passing from the spindle to the heater, and the cooling effect of the longer yarn path is not specifically claimed. Nevertheless, during the early stages of this litigation DMRC and Chavanoz contended that the bulking attachment on the ARCT machines infringed this '6881 patent. Although Judge Hemphill rules that the claims of that patent were not infringed, defendants' contention constitutes an admission of the pertinency of the disclosure of the prior '6881 patent with respect to the '450 patent.

The Gilchrist British and French patents (PX 514 and PX 623) were not cited or considered by the Patent Office

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during the prosecution of the '450 patent; nor was the 1954 Dupont publication (PX 515) on the tension effects of guides; nor was the 1965 article (PX 111) relating to the Klinger AM-1 machine; nor was evidence of the features and operation of the AM-1 machine. Of the patents cited by the patent examiner none teaches a false twist machine with a lengthened cooling path, combining the advantages of a lower yarn tension in the heater with substantially unrestricted passage of the twist from the spindle to the heater. The Servage patent '6881 was cited and considered, but it was distinguished on the ground that it lacked an express teaching of substantially unrestricted twist passage. That deficiency is supplied by either the Gilchrist patents or the 1965 publication describing the principles of the Klinger AM-1 machine (PX 111).

The teachings of the prior art that yarn cooling length can be increased by passage around a series of guides, that passage around such guides would cause a build-up of tension and thereby permit a lower yarn tension in the heater, and that the passage of the yarn around such guides would not substantially restrict twist made the alleged invention of the '450 patent obvious to a person of ordinary skill in the art prior to March 29, 1968. When the Gilchrist patent disclosures are taken into consideration, the conclusion that the alleged invention of the '450 patent was obvious and well within the skill of a mechanic familiar with the prior art becomes inescapable.

Defendants contend that the recitation in claims 2-5 and 7-14 of means for adjusting the heater outlet into alignment with the false twist spindle to selectively [769] bypass the guide means avoids obviousness in light of the prior art. The court does not agree, for with the heater posi-

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tioned so that the guides are in use, the entire invention is obvious. When the heater is positioned so that the guides are bypassed, the apparatus is then in a prior art configuration and does not obtain any of the alleged advantages of the invention. There can be no invention in merely providing means to "selectively" alternate between one unpatentable configuration of elements and another unpatentable configuration of old elements, where there is no new or different function. *Grinnell Corporation v. VEPCO*, 401 F.2d 451 (4th Cir. 1968); *Servo Corporation v. General Electric Company*, 337 F.2d 716 (4th Cir. 1964).

The court has carefully considered but must reject plaintiffs' argument that the Gilchrist '509 patent anticipates the '450 patent for the reason that while there is credible evidence that the guide in the Gilchrist patent may enhance cooling, the patent nowhere discloses that any cooling efficiency is desirable or may be obtained as a result of employing the patent device. Instead the patent is primarily concerned with disclosing a means for obtaining a desirable yarn tension differential between the spindle and heater. Because all of the same elements are not united in the same way to perform the identical function, the technical defense of anticipation is not made out. *Stauffer v. Slen-derella Systems of California*, 254 F.2d 127 (9th Cir. 1957).

But the differences between the subject matter patented by the '450 patent and the pertinent prior art would have been obvious at the time the invention was made to the hypothetical person having ordinary skill in the art. Mere differences in shape or configuration of the yarn path are not patentable, and it is well settled that changes in form, proportion or size will not sustain patentability. *National Connector Corporation v. Malco Manufacturing Company*, 392 F.2d 766, 770 (8th Cir. 1968). Differences such as the

adjustability of the yarn guides and the length of the yarn path are matters of degree and flow naturally from the teachings of the prior art. In any event, those differences would have been found through the exercise of routine experimentation. Even if the '450 combination provides a better result, the combination is not patentable since there is no new or different result. *Blohm & Voss AG v. Prudential-Grace Lines, Inc.*, 489 F.2d 231 (4th Cir. 1973); *Triumph Hosiery Mills v. Alamance*, 299 F.2d 793 (4th Cir. 1962).

In summary, the plaintiffs have sustained their burden of proof of showing the invalidity of Patent No. 3,584,450. The prior art in the trial record which was not considered by the Patent Office demonstrates that the alleged invention of the '450 patent was obvious to a person of ordinary skill in the art. Such a person is presumed to have knowledge of the most pertinent prior art. The patent is void for obviousness under 35 U.S.C. § 103.

• • •

In addition to the facts found by the court in its treatment of the '450 patent the court adopts as its own the following proposed findings of fact submitted by the parties on the patent issues:

1. On the issue of obviousness: plaintiffs' proposed findings of fact 13.1.1-13.1.8 inclusive; 13.2.1-13.2.10 inclusive; 13.2.12-13.2.15 inclusive; 13.2.16 (with the exception of the last sentence); and 13.2.17.

Defendants' proposed findings of fact VIII-1-4 inclusive; 11-13 inclusive; 16-18 inclusive; 20-25 inclusive; 28-30 inclusive; 102-105 inclusive; and 110.

IV.

NON-PAYMENT OF ROYALTIES

As mentioned in the introductory pages of this memorandum, the first of the thirty-seven suits here involved (now reduced to thirty-two by settlements during and post-trial) was an action by DMRC against Textured Fibres, Inc. (Texfi) for unpaid royalties. In that suit DMRC alleged that Texfi had breached its sublicense agreement by paying royalties on the basis of the actual price it paid for [770] yarns textured on its ARCT machines rather than on the manufacturer's list price of the yarn as required by the sub-license agreement.⁸⁷

Texfi does not deny that after having paid royalties on the basis of the manufacturer's list price for several years it began calculating royalty payments on the basis of the actual price paid by it to the yarn producers. Texfi contends that in a letter explaining its offer in June, 1963, to escrow royalty payments pending outcome of the Leeson litigation (see p. 679, *supra*), DMRC modified the requirement of the license agreement that royalties be paid on the basis of the manufacturer's list price substituting instead actual price as the basis for payment.

As other Throwsters were brought into the litigation they took stands similar to Texfi's, and, of course, all of

⁸⁷ Texfi's sub-license provides in paragraph 4:

"... LICENSEE shall pay DMRC during the life of this agreement royalties in the amount of three and one-half per cent (3½%) of the manufacturer's list price of the raw yarn ... which is converted to crimped yarn by LICENSEE according to the FT process or on FT machines. . . ." (DX 702).

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them in due course ceased paying royalties altogether. All plaintiffs contend that the term "manufacturer's list price" is ambiguous and that it should be construed to mean manufacturer's actual price rather than the list price published in various textile publications. Thus, if this court's previous rulings herein should be held in error and it should be determined that DMRC is entitled to the recovery of royalties prior to the termination of its sub-license agreements with plaintiffs, an issue will remain as to the basis upon which such royalties should be calculated.

The court does not deem extended discussion of this issue necessary. Suffice it to say that the court has carefully reviewed the evidence bearing on the question in consequence of which it is satisfied that the plain, unambiguous wording of the sublicense agreement must control; that the term "manufacturer's list price" has a distinct meaning in the industry and is understood to be the price published by yarn producers for their products and not the price actually charged any particular purchaser; and that historically the actual price has frequently been less than the published price. The court is comforted in its conclusion by the fact that the plaintiffs themselves so construed their contracts for years prior to the institution of this litigation. The letters they now rely on to show a modification of the agreement do not in the court's opinion have such effect.

In the event DMRC is held later to be entitled to recover royalties the same will be calculated on the basis of the published manufacturer's list price of the raw yarn rather than the actual price paid by the plaintiffs for the yarn.

* * *

In addition to the facts found by the court on the issue of nonpayment of royalties the court adopts as its own

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the following proposed findings of fact submitted by the parties on this issue:

Defendants' proposed findings of fact, Volume I, findings Nos. 161-166 inclusive, 168, 169, 171 and 172.

Plaintiffs' proposed findings on the antitrust and patent issues, 17.1 and 17.3 except for its first sentence and the words "for example" at the beginning of the second sentence.

* * *

ADDITIONAL FINDING—GENERAL

In addition to the findings of fact made by the court and adopted from the findings proposed by the parties⁸⁸ the court makes [771] the following findings, comments and observations which apply generally to the case:

1. Since the trial of this case the Supreme Court has overruled *United States v. Arnold, Schwinn & Company*, 388 U.S. 365, 87 S.Ct. 1856, 18 L.Ed.2d 1249 (1967), to the extent that it applied the per se rule to the facts there involved, *Continental T.V., Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36, 97 S.Ct. 2549, 53 L.Ed 568 (1977), thus undercutting one of plaintiffs' primary authorities relied upon to establish a vertical antitrust conspiracy. The court remains

⁸⁸ Adopted findings are those considered by the court to be most relevant to decision. Unless rejected expressly or by implication in the text the court's failure to adopt other proposed findings is not to be construed as implicitly holding that other proposed findings are not supported by competent evidence in the record. Aware of the criticism sometimes directed at the practice of district courts in adopting proposed findings, see *Industrial Building Materials, Inc. v. Interchemical Corporation*, 437 F.2d 1336, 1339 (9th Cir. 1970), this court has checked the references cited in support of any such findings adopted and has assured itself that they are supported by the record.

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unpersuaded that the facts of the case at bar sustain a finding of such conspiracy under a rule of reason analysis.

2. One of the plaintiffs, The Duplan Corporation, went into corporate reorganization proceedings under Chapter XI of the Bankruptcy Act (later transferred to proceedings under Chapter X) during the course of the trial. The court has been furnished a copy of an order by Judge Kevin Duffy of the Southern District of New York dated December 14, 1976, which indicates that the trustee has consented to the continued prosecution of this suit in the name of The Duplan Corporation for the benefit of the estate. No further order by this court on this matter is deemed necessary.

3. News dispatches within the week indicate that another plaintiff, United Merchants & Manufacturers, Inc., has also gone into reorganization proceedings under Chapter XI of the Bankruptcy Act, but the court has received no official notification of this fact.

4. The court has nothing but praise for the twenty or more exceptionally able attorneys on both sides of this case. Their preparation and presentation of the case with its massive volume of evidence and legal complexities has been outstanding. At the same time, the court is constrained to express its concern with the inordinate toll of time and energy such cases are exacting from the federal judiciary and more importantly, the delays and frustrations being visited upon innumerable other litigants who are being denied their day in court while such cases as these are being processed. Here we are just arriving at the end of one phase of the trial of thirty-seven cases, the oldest of which was commenced nine years ago. During this time the parties have exchanged or produced over one million documents spanning a period of twenty years, and there has

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been amassed a trial record of almost 18,000 pages and 2,000 exhibits.

It is not easy to assign definite causes for this proliferation of patent-antitrust litigation in recent years, but at least part of the blame must be laid at the door of the United States Patent Office which, despite protestations to the contrary⁸⁹ seems unable to say "no" to any patent solicitor who has the persistence to prosecute a patent through as many as six rejections. The result is that many weak patents are being issued which begin their lives with scant hope of survival if subjected to the stern tests of Sections 102 and 103 under current case law.

Such is the case here. More than twenty years ago Armitage of DMRC was conceding that insofar as broad patent coverage was concerned, false twist was a "dead duck" (Tr. 7, pp. 1310-11). Yet we find the Patent Office issuing the '450 patent in mid-1971 long after this litigation was underway thereby granting Chavanoz and DMRC a patent monopoly on a device consisting essentially of three ordinary spools or pulleys so arranged as to increase the length of the yarn's travel between the heater and the spindle thereby increasing [772] the time for cooling between these two elements.⁹⁰

⁸⁹ See "Laying the Ghost of the 'Invention' Requirement" by the Honorable Giles A. Rich, Associate Judge of the United States Court of Customs and Patent Appeals, a speech given to and published by the Patent Law Associations of Los Angeles and San Francisco, September, 1972.

⁹⁰ While this court would not associate itself with the views of one judge who characterized the United States Patent Office as the "sickest institution that our government has ever invented" and "the weakest link in the competitive system in America", see *Pfizer, Inc.*

(footnote continued on following page)

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Further contributing to the morass of patent antitrust litigation now clogging the courts are numerous cases spawned by *Lear, Inc. v. Adkins*, 395 U.S. 653, 89 S.Ct. 1902, 23 L.Ed.2d 610 (1969), which reversed the long-standing licensee estoppel rule and opened up the courts to licensees seeking to challenge patent validity, the case under consideration here being a prime example of this new-found freedom to litigate. While the law in this area is still developing and the rule in *Lear* will doubtless be refined by the Supreme Court in cases yet to come, it has already come under serious attack. See McCarthy, "Unmuzzling' the Patent Licensee: Chaos in the Wake of *Lear v. Adkins*", 45 George Washington Law Review 429 (March, 1977).

Meanwhile, as a possible solution to the problems presently confronting the courts and litigants in this area perhaps it is not too much to hope that attention will be given to the disposition of these cases through means other than

(footnote continued from preceding page)

v. Lord, 456 F.2d 532 at p. 536 (8th Cir. 1972), it is not alone in its impression that patent examiners can be prevailed upon to issue patents on a wide variety of devices which do not always comport with statutory and constitutional requirements. In the present case Judge Hemphill had occasion to observe that:

"Writing patent claims is like trying to define the shape of a cloud. If one can precisely define the shape of a cloud by detailing where all particular pieces go together, the Examiner will give a person a patent on it." *Duplan Corporation v. Deering Milliken, Inc.*, 379 F.Supp. 388 at p. 396, footnote 12 (D.S.C. 1974).

That Judge Hemphill's observation may not be as whimsical as it sounds is perhaps best illustrated by PX 1313 introduced by plaintiffs' counsel in a moment of levity at the end of the trial. It is United States Patent No. 3,936,384 issued on a bar of soap with a religious symbol impressed thereon. Claim 1 reads "a bar of soap which is embossed with religious markings." Claims 2 and 3 are dependent on claim 1.

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judicial litigation. See Timberg, "Antitrust Aspects of Patent Litigation Arbitration and Settlement", 59 Journal of the Patent Office Society 244 (April, 1977).

"The patent and antitrust areas constitute notable exceptions to the judicially accepted truism that 'compromises of disputed claims are favored by the courts' and of the legislative and judicial trend towards encouraging the arbitration, rather than the judicial litigation, of commercial disputes. It is ironic that this hostility to informal settlement procedures should manifest itself in areas where courtroom litigation is particularly burdensome, complex and chancy," *Id.* 244.

CONCLUSION

The court's findings of fact and conclusions set forth in this memorandum of decision are summarized as follows:

1. The court has jurisdiction of the parties and subject matter.
2. The activities of the defendants in connection with the sale by Whitin and ARCT, Inc., of the ARCT machines to the plaintiff Throwsters were not violative of the antitrust laws in respect of plaintiffs' allegations of vertical antitrust conspiracy but rather were in conformity with the lawful exercise of the rights of the defendants under their patent monopolies. Plaintiffs have therefore failed to establish a vertical antitrust conspiracy either in fact or in law.
3. The defendants Chavanoz, DMRC and DMI have by the Leeson settlement of March 31, 1964, and their activities subsequent thereto conspired with Leeson to violate

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Sections 1 and 2 of the Sherman Act with resulting damage to the business and property of the plaintiffs. Plaintiffs have therefore established their allegations of a horizontal antitrust conspiracy by a preponderance of the evidence and are entitled to the recovery of such damages, costs and attorneys' fees as may be subsequently established pursuant to the provisions of 15 U.S.C. § 15.

[773] 4. Plaintiffs have failed to establish by a preponderance of the evidence that the defendants ARCT-France and ARCT, Inc., have violated the provisions of the antitrust laws, and these two defendants are therefore entitled to dismissal of the action with costs as it relates to them. Costs are not to include attorneys' fees as sought by these two defendants, however, as they are not entitled in law to recovery of attorneys' fees upon their successful defense of plaintiffs' antitrust claims. See cases cited in Annotation, "Allowance of Attorney's Fees Under Section 4 of Clayton Act, etc.", 21 A.L.R.Fed. 750 at p. 765.

5. As a matter of law the violation by Chavanoz, DMRC and DMI of the antitrust laws as herein found constitutes a misuse of the Chavanoz patents by these defendants which remains unpurged and DMRC is therefore not entitled to recover of the plaintiffs, or either of them, by reason of its claims for unpaid royalties.

6. The defendants, Chavanoz, DMRC and DMI have been guilty of other acts of patent misuse as set forth in the section of this memorandum entitled "Patent Misuse" which remain unpurged, and for these additional reasons DMRC is not entitled to recover of the plaintiffs, or either of them, by reason of its claims for unpaid royalties.

7. United States Patent No. 2,891,375 is invalid, but even if valid, the plaintiffs have not infringed this patent.

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8. United States Patent No. 2,944,319 is invalid, but even if valid, the plaintiffs have not infringed it. In any event, the patent is not enforceable because of the admitted material misrepresentations made by the inventor's attorney to the Patent Office.

9. United States Patent No. 3,012,397 is invalid, but if valid, the defendants have established by a preponderance of evidence that the plaintiffs in treating polyester yarns have infringed this patent.

10. United States Patent No. 3,123,973 is invalid, but even if valid, the patent has not been infringed by the plaintiffs.

11. United States Patent No. 3,165,881 is invalid, but if it were valid, the plaintiffs have infringed it.

12. United States Patent No. 3,232,037 is invalid, but even if it were valid it would not be enforceable against the plaintiffs for that the attempt of Chavanoz to obtain a retroactive assignment of this patent from ARCT-France was ineffective and the attempt to assert it against the plaintiffs in this action constitutes patent misuse which remains unpurged.

13. United States Patent No. 3,283,414 is valid, but the absence of a connection between the heater tube and the fume exhaust tube on the machines operated by the plaintiffs establishes that the plaintiffs have not infringed this patent.

14. United States Patent No. 3,584,450 is invalid, but if valid, admittedly the plaintiffs have infringed it.

15. If the foregoing rulings should be held in error and it should be determined that DMRC is entitled to the

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recovery of royalties prior to the termination of its sublicense agreements with the plaintiffs, the same will be calculated on the basis of the published manufacturer's list price of the raw yarn rather than the actual price paid by the plaintiffs for the yarn.

16. The court is of opinion that the rulings herein involve controlling questions of law as to which there is substantial ground for difference of opinion and an immediate appeal from the judgment order to be entered pursuant hereto may materially advance the ultimate termination of the litigation.

17. Pursuant to Rule 54(b), F.R.Civ.P., the court finds that there is no just reason for delay and final judgment will be entered dismissing these actions as to the ARCT defendants.

An appropriate judgment order in form and substance consistent with this memorandum may be presented to the court for approval and entry.

Appendices to follow.

[774]

APPENDIX A

Texturing—Generally

This litigation involves apparatus and processes for texturing synthetic yarns such as nylon, cellulose acetate and polyester. These yarns, as manufactured by yarn producers such as Dupont, Monsanto and Celanese, are composed of straight, smooth filaments. Because of this, the yarns have a shiny appearance and a cold feel. Typically, a nylon or polyester yarn will be made up of 23 to 36

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individual filaments. Fabrics made from such untreated yarns have similar characteristics. One illustration of such a fabric is the material used to line the coat of a man's suit. Thus, in their untreated form, synthetic yarns are generally not suitable for use in making fabrics for woven or knitted outerwear.

Multi-filament synthetic yarns are textured to make them soft and warm and thus more like spun yarns, such as cotton and wool. After they have been textured, synthetic yarns become suitable for a wide range of uses, from women's hosiery to double knits and woven fabrics for dresses and suits.

The art of texturing involves deforming the individual filaments that make up a synthetic yarn so that the individual filaments will be curled or kinked or coiled. These deformations relieve the shiny appearance and create small spaces, or tiny air pockets, between the filaments of the yarn.

Various devices may be used to effect this deformation. For example, the yarn may be twisted or it may be run over a shap blade. However, in the absence of heat, either deformation will not be permanent and the yarn will return to a flat, smooth condition as soon as the deformation (e. g., twist) is removed. When the deformation takes place in the presence of sufficient heat and the yarn is then cooled, the deformation becomes relatively permanent, or "set" in the yarn. This process whereby the deformation becomes permanent is often referred to as "heat setting". This permanency of deformation results from the thermoplastic nature of synthetic yarns, that is, when a synthetic yarn is heated to a temperature of approximately 300-400 degrees F, the individual filaments become plastic or malleable. When the yarn is subsequently cooled, the filaments "remember" the shape imposed during heating,

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and try to return to that shape. Internal stresses in the yarn (sometimes referred to as “torsional stresses” or “latent stresses”) are thereby created. These stresses make the yarn elastic in nature by causing the filaments to form loops and curls when the tension on the yarn is reduced or removed. As loops or curls form, the length of the yarn decreases and its diameter increases. The filaments can be straightened again by applying tension, but, upon release of the tension, the filaments will again “remember” the deformed shape and form loops and curls.

Texturing devices generally employ six common elements (although not necessarily in the same order):

- (a) A supply package to hold the untreated yarn;
- (b) Means to move the yarn from the supply package to the subsequent elements and to control the tension on the moving yarn;
- (c) A heating means or device to plasticize the yarn and make it malleable;
- (d) Means to deform (e. g., curl, kink or coil) the yarn;
- (e) Means to allow the yarn to cool and thus make the deformation permanent; and
- (f) A take-up package on which the treated yarn is wound.

Various methods for texturing synthetic yarns have been used commercially in the United States. These include twist texturing, edge crimping, gear crimping and stuffer box crimping. The principal difference in these various methods is the means used to deform the yarn. Thus, in twist texturing, a twisting device is used; in edge crimping, a sharp blade is used; in gear [775] crimping, the yarn is meshed between gears; in stuffer box crimping, the yarn

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is literally stuffed into a heated box. While the characteristics of the resultant yarn will vary widely depending upon the method used, the textured yarn in each case will have at least some stretch properties. As noted above, stretchiness or elasticity is attributable to the internal stresses in the yarn. These stresses (and thus the potential for the yarn to loop or curl) can be partially relieved or eliminated by subjecting the stretch yarn to a second heat treatment while under tension. The effect of a second heat treatment under tension is to reduce the ability of the yarn to loop and curl and thereby to reduce its elasticity. Because stretch yarns are unsuitable for some end uses and are hard to handle for other uses, methods have been developed for subjecting such yarns to a second heat treatment for the purpose of reducing their elasticity.¹

ELEMENTS OF THE FALSE-TWIST STRETCH YARN PROCESS

“The false-twist method for producing stretch [nylon or polyester] yarns utilizes simultaneous twisting, heat-setting, and untwisting, thus making the process continuous in operation.

“A schematic diagram showing the yarn path through a typical false-twist type stretch yarn machine is pictured in Figure 3.5. Note that the yarn is taken from the supply package, fed at controlled tension over the heater and through the false-twist spindle, and then onto a take-up package. The twist between the false-twist spindle and the input feed rolls is set into the yarn by heating and cooling before it passes through the false-twist spindle.

¹ The foregoing summary of “Texturing—Generally” has been taken from plaintiffs’ proposed Findings of Fact on the Patent Issues.

[DIAGRAM OMITTED]

Fig. 3.5—Schematic showing yarn path through a typical false-twist type stretch yarn machine.

“The basic principles involved in the production of false-twist type stretch yarns are as follows. If a stationary multifilament yarn is held at both ends and twisted in the center by a hollow false-twist spindle, then equal amounts of twist with opposite directions of spirality will be imparted on each side of the spindle . . . Although if either half of the yarn were considered separately, it would be observed that the twist was real, the algebraic sum of twist throughout the length of the yarn as a whole is zero. Such twisting is called false-twisting. With the false-twist spindle rotating continuously, and yarn moving through it continuously, the twist on the output side of the false-twist spindle is carried away to the wind-up, and twist from the input side moves through the false-twist spindle.

“Having moved through the false-twist spindle, the twisting sense, relative to the [776] yarn, is reversed and the yarn is untwisted. At the same time, further twist is inserted in the input portion of the yarn, so that when equilibrium is established, a region of twisted yarn results on the input side of the false-twist spindle, and twist-free yarn on the output side . . .

“If now a heater is added on the input side of the false-twist spindle, with enough space left for cooling before the twisted yarn passes through the rotating spindle, then the three basic steps of twisting, heat-setting, and untwisting can be carried out continuously on one machine . . . Twist enters the yarn at the tensioner, is set at the heater, and untwisted upon leaving the false-twist spindle.”²

² From Monsanto's “Textured Yarn Technology”, Copyright, 1969.

The false twist method of texturing was known as far back as 1854 when an Englishman, Donald Finlayson, applied for a United States patent in the field which matured into Patent No. 2,089,198 which issued August 10, 1937. The method did not achieve widespread commercial use in this country until the late 1950's.

In addition to the machines made by the defendant, ARCT-France, the plaintiffs in this action also operate other false twist machinery made by other manufacturers such as Leeson (U.S.A.), Scragg (British) and Heberlein (Swiss). While there are differences in the details of construction of these machines, the false twist process is carried out by all of them in essentially the same manner as shown above in Figure 3.5. Each machine comprises a number of “single positions” (156, 192 or 216 depending on manufacturer and type), and each such spindle position includes exactly the same components as every other spindle position. Therefore, it is only necessary to understand what happens at a single spindle position in order to grasp the working of an entire machine or hundreds of such machines.

APPENDIX B

The following is a list of the thirty-seven cases consolidated for trial:

1. *Deering Milliken Research Corporation v. Texfi Industries, Inc.*, C.A.No. 68-705;
2. *Deering Milliken Research Corporation v. Blanchard Yarn Company*, C.A.No. 69-777;*

* Three of the actions were settled during the course of the trial: *Deering Milliken Research Corporation v. Blanchard Yarn Company*, C.A.No. 69-777; *Blanchard Yarn Company v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-97; *Deering Milliken Research Corporation v. Burkyarns, Inc.*, C.A.No. 71-283.

This memorandum therefore covers only the thirty-four remaining cases.

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3. *Deering Milliken Research Corporation v. The Duplan Corporation and Burlington Industries, Inc.*, C.A.No. 69-1096;
 4. *Deering Milliken Research Corporation v. Madison Throwing Company*, C.A.No. 70-14;
 5. *Deering Milliken Research Corporation v. Reliable Silk Dyeing Company*, C.A.No. 70-189;
 6. *Deering Milliken Research Corporation v. Spring-Tex, Inc.*, C.A.No. 70-250;
 7. *Deering Milliken Research Corporation v. Schwarzenbach-Huber Company*, C.A.No. 70-295;
 8. *Deering Milliken Research Corporation v. Olympia Mills, Inc.*, C.A.No. 70-358;*
 9. *Deering Milliken Research Corporation v. Jonathan Logan, Inc.*, C.A.No. 70-385;
 10. *Deering Milliken Research Corporation v. Leon-Ferenbach, Inc.*, C.A.No. 70-386;
 11. *Deering Milliken Research Corporation v. Hemmerich Industries, Inc.*, C.A.No. 70-391;
- [777]
12. *Deering Milliken Research Corporation v. Frank Ix & Sons Virginia Corporation*, C.A.No. 70-493;
 13. *Deering Milliken Research Corporation v. Texelastic Corporation*, C.A.No. 70-622;

* These two additional cases were settled after this memorandum was in process of preparation.

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14. *Deering Milliken Research Corporation v. Lawrence Texturing Corporation*, C.A.No. 70-628;
15. *Deering Milliken Research Corporation v. National Spinning Company, Inc.*, C.A.No. 70-677;
16. *Deering Milliken Research Corporation v. United Merchants & Manufacturers, Inc.*, C.A.No. 70-683;
17. *The Duplan Corporation v. Deering Milliken, Inc., et al.*, C.A.No. 70-968;
18. *Throwing Corporation of America v. Deering Milliken Research Corporation*, C.A. No. 71-87;
19. *Textured Fibres, Inc., v. Deering Milliken Research Corporation*, C.A.No. 71-88;
20. *Schwarzenbach-Huber Company v. Deering Milliken Research Corporation, et al.*, C.A. No. 71-89;
21. *Spring Tex, Inc., v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-90;
22. *Leon-Ferenbach, Inc., v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-91;
23. *Jonathan Logan, Inc., v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-92;
24. *Olympia Mills, Inc., v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-93;**
25. *Burlington Industries, Inc., v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-94;
26. *Madison Throwing Company v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-95;
27. *Frank Ix & Sons Virginia Corporation v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-96;

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28. *Blanchard Yarn Company v. Deering Milliken Research Corporaion, et al.*, C.A.No. 71-97;*
29. *Texelastick Corporation v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-98;
30. *National Spinning Company, Inc., v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-99;
31. *Hemmerich Industries, Inc., v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-100;
32. *United Merchants & Manufacturers, Inc., v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-101;
33. *Lawrence Texturing Corporation v. Deering Milliken Research Corporation, et al.*, C.A.No. 71-102;
34. *Deering Milliken Research Corporation v. Dixie Yarns, Inc.*, C.A.No. 71-115;
35. *Deering Milliken Research Corporation v. Frank Ix & Sons Virginia Corporation*, C.A.No. 71-126;
36. *Deering Milliken Research Corporation v. Schwarzenbach-Huber Company*, C.A.No. 71-127;
37. *Deering Milliken Research Corporation v. Burkyarns, Inc.*, C.A.No. 71-283.*

APPENDIX C

The following is a brief summary of the previously-reported rulings and decisions in the case:

1. *DMRC v. Textured Fibres Company*, 310 F.Supp. 491 (D.C.S.C.1970). Russell, J.:

Upholds jurisdiction over defendant-licensee pursuant to South Carolina's "longarm" statute.

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2. *Consolidated Civil Action No. 71-306*, 320 F.Supp. 806 (D.C.S.C.1970). Russell, J.:

Requires answers to interrogatories seeking identification of allegedly privileged documents, but sets limits on information required to be given.

3. *Consolidated Civil Action No. 71-306*, 334 F.Supp. 703 (D.C.S.C.1971). Hemphill, J.:

[778] Denies motions to dismiss (for lack of jurisdiction) by defendants Chavanoz and ARCT-France, with findings of fact.

4. *Consolidated Civil Action No. 71-306*, 353 F.Supp. 826, 179 U.S.P.Q. 449 (D.C.S.C.1973). Hemphill, J.:

Grants motion for summary judgment; holds Chavanoz Patents 3,137,119 and 3,382,656 invalid because of Chavanoz and DMRC's violation of 35 U.S.C. § 102(d).

5. *The Duplan Corporation, et al. v. DMRC*, 487 F.2d 459 (4th Cir. 1973), *cert. denied*, 415 U.S. 978, 94 S.Ct. 1565, 39 L.Ed.2d 874. Per Curiam:

Affirms summary judgment that Chavanoz Patents 3,382-656 and 3,137,119 are invalid because of violations of 35 U.S.C. § 102(d).

6. *Consolidated Civil Action No. 71-306*, 61 F.R.D. 127 (D.C.S.C.1973), Hemphill, J.:

Orders, over Chavanoz' claim of work product immunity, production of documents generated during prior litigations now terminated.

7. *The Duplan Corporation v. Moulinage et Retorderie de Chavanoz*, 487 F.2d 480 (4th Cir. 1973). Field, J. (Bryan and Widener):

Memorandum Opinion—444 F. Supp. 648 (D.S.C. 1977)

Reverses district court's order granting free discovery of work product materials generated during prior terminated litigations.

8. *Consolidated Civil Action No. 71-306*, 370 F.Supp. 769, 180 U.S.P.Q. 373 (D.C.S.C.1973). Hemphill, J.:

Holds Chavanoz Patent No. 2,741,893 not infringed, because of file wrapper estoppel, for all purposes in litigation.

9. *Consolidated Civil Action No. 71-306*, 379 F.Supp. 388, 181 U.S.P.Q. 621 (D.C.S.C.1974). Hemphill, J.:

Holds Chavanoz Patent No. 3,117,361 not infringed, because of file wrapper representations and admissions, for all purposes of litigation.

10. *The Duplan Corporation v. Moulinage et Retorderie de Chavanoz*, 509 F.2d 730 (4th Cir. 1974). Widener, J. (Adams and Field):

Reverses district court's order of February 5, 1974; holds that "opinion work product" materials remain privileged despite any showing of need and hardship.

11. *Consolidated Civil Action No. 71-306*, 184 U.S.P.Q. 812 (D.C.S.C.1974). Hemphill, J.:

Dismiss DMRC's claims for infringement against Throwsters; requires Chavanoz to enter claims for infringement or be barred from making claims in future.

12. *Consolidated Civil Action No. 71-306*, 184 U.S.P.Q. 812 (D.C.S.C.1974). Hemphill, J.:

Denies DMRC's motion to be joined with Chavanoz as a co-plaintiff on the infringement claims against the Throwsters.

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13. *Consolidated Civil Action No. 71-306*, 184 U.S.P.Q. 775 (D.C.S.C. May 30 and December 19, 1974 and February 13, 1975). Hemphill, J.:

Rules on claims of attorney-client and work product privilege-requires production of some documents and upholds claims of privilege as to others; holds that Throwsters have made *prima facie* showings of fraud and anti-trust violations by DMRC and Chavanoz.

14. *The Duplan Corporation, et al. v. DMRC*, 522 F.2d 809 (4th Cir. 1975). Boreman, J. (Craven and Field):

Reverses district court's order dated November 27, 1974; holds that DMRC may be joined as co-plaintiff on Chavanoz's infringement claims against the Throwsters.

15. *Consolidated Civil Action No. 71-306*, 400 F.Supp. 497, 186 U.S.P.Q. 407 (D.C.S.C.1975). Hemphill, J.:

Denies motion by DMRC and Chavanoz that district judge recuse himself because of alleged bias and prejudice.

16. *The Duplan Corporation, et al. v. Deering Milliken, Inc. et al.*, 540 [779] F.2d 1215 (4th Cir. 1976). Widener, J. (Boreman, Sr. Circuit Judge and Haden, District Judge):

Affirms district court's ruling that certain documents sought by plaintiffs were not discoverable under the work product rule but holds erroneous the district court's conclusion that two letters by attorneys or representatives of Chavanoz expressing opinions that it might prevail in its pending litigation with the Leeson Corporation sufficient to establish a *prima facie* violation of the antitrust laws following settlement of the litigation.

APPENDIX D

Chavanoz and DMRC originally asserted the following twenty-two patents in this litigation:

<u>U.S. Patent</u>	<u>Issue Date</u>	<u>Filing Date</u>	<u>Applicant(s)</u>
2,741,893	April 17, 1956	Jan. 14, 1953	L. Vandamme— L. Rouyer
2,761,272	Sept. 4, 1956	June 11, 1954	L. Vandamme— L. Rouyer
2,780,047	Feb. 5, 1957	Sept. 19, 1955	L. Vandamme— L. Rouyer
2,788,634	April 16, 1957	May 14, 1956	H. Crouzet
2,823,513	Feb. 18, 1958	June 11, 1954	L. Vandamme— L. Rouyer
2,823,514	Feb. 18, 1958	June 11, 1954	L. Vandamme— L. Rouyer
2,891,375	June 23, 1959	Jan. 2, 1957	L. Vandamme— L. Rouyer
2,944,319	July 12, 1960	April 7, 1959	H. Crouzet
3,012,397	Dec. 12, 1961	Nov. 30, 1959	H. Servage
3,117,361	Jan. 14, 1964	Feb. 11, 1960	H. Crouzet
3,117,410	Jan. 14, 1964	Dec. 19, 1960	H. Crouzet
3,123,973	Mar. 10, 1964	Nov. 30, 1959	H. Servage
3,137,119	June 16, 1964	June 14, 1961	C. Crouzet
3,165,881	Jan. 19, 1965	Jan. 31, 1961	Y. de Moncuit— H. Crouzet
3,166,881	Jan. 26, 1965	July 22, 1963	H. Servage
3,232,037	Feb. 1, 1966	Apr. 24, 1964	H. Crouzet
3,237,392	Mar. 1, 1966	Aug. 14, 1963	H. Crouzet
3,283,414	Nov. 8, 1966	Mar. 4, 1964	H. Crouzet
3,333,409	Aug. 1, 1967	April 19, 1963	H. Servage
3,382,656	May 14, 1968	Jan. 3, 1966	H. Crouzet
3,473,313	Oct. 21, 1969	May 7, 1968	H. Crouzet
3,584,450	June 15, 1971	Mar. 28, 1969	H. Crouzet

Prior to trial, issues as to the validity and infringement of the following patents in suit were eliminated by various orders of Judge Hemphill granting motions for summary judgment of non-infringement or invalidity:

<u>Invalidity</u>	<u>Non-Infringement</u>	
3,137,119*	2,741,893	3,117,361
3,382,656	2,761,272	3,117,410**
	2,780,047	3,166,881
	2,788,634	3,237,392
	2,823,513	3,333,409
	2,823,514	3,473,313

* On November 1, 1973, the court entered judgment that this patent was also not infringed by the plaintiffs.

** Summary judgment was granted as to all plaintiffs except Duplan (judgment filed on November 1, 1973). Prior to trial, however, Chavanoz and DMRC gave notification that they would make no contentions at trial as to infringement of this patent by Duplan (Notice by DMRC and Chavanoz of Patent Claims to be Asserted at Trial, dated April 9, 1976).

*Adopted Findings—Horizontal Conspiracy***Supplemental Findings of the District Court**

[The following are extracts from the findings of fact proposed by the parties, as adopted by the District Court and incorporated by reference in its Memorandum Opinion.]

Horizontal Conspiracy—Liability of Chavanoz and DMRC

Plaintiffs' Proposed Findings (Adopted):

15.1 In 1957, when DMRC and Chavanoz signed their initial agreement, the domestic market in the sale and licensing of false twist machinery was dominated by Leeson (then Universal Winding Company), which was the only American manufacturer of false twist machinery.

Annotations:

Vol. 7—p. 1295 (Armitage)

Vol. 51—p. 10,152-53 (Evans)

15.2 In 1959, when the first ARCT machines were sold and delivered in the United States, Leeson was the only other supplier of false twist machines to United States throwsters.*

Annotations:

Vol. 13—p. 2756 (Waters)	]	first ARCT machines
Vol. 79—p. 15439	]	sold in 1959; to
PX 121-3870	]	Schwarzenbach (Luray
	]	Textiles); first machines
	]	delivered were the "loan"
	]	machines to Madison.

* From 1959 through 1969, Leeson remained the principal competitor of ARCT-France and its United States distributors in the sale of false twist machines in the United States. See Findings 15.64, 15.75, 15.81, *infra*.

Adopted Findings—Horizontal Conspiracy

Vol. 13—p. 2771-72; 2799-800 (Waters)	]	Leeson was
Vol. 79—p. 15432 (Waters)	]	only other
Vol. 18—p. 3783-84; 3787-88 (Leeson)	]	supplier

PX 1048—Waters to Crouzet: "We entered a market that was dominated 100% by one manufacturer's machines."

DX 849—Waters memo 4/17/61: in 1959 Leeson completely dominated market in false twist machines (90,000 Flufon and 70,000 Superloft spindles).

15.3 Leeson had begun work on developing a continuous process false twist machine in late 1953 or early 1954. Prototype machines were demonstrated to potential customers in the fall of 1954. Production and marketing of Leeson's first full-size false twist machine, known as the Model 550 or Superloft machine, began in 1955.

Annotations:

Vol. 18—pp. 3739; 3742; 3748-49 (Leeson)

Vol. 19—pp. 3878-79 (Davis)

15.4 Prior to 1954, Permatwist had designed and built attachments for converting conventional up-twisters to carry out the false twist process. The up-twister was modified by removing the standard spindle, replacing it with a false twist spindle and adding a heater and yarn tensioning device. Permatwist marketed and licensed its attachment under the trademark Flufon.

Annotations:

Vol. 18—p. 3743; 3745-47; 3762-64 (Leeson)

Vol. 19—pp. 3883-84 (Davis)

15.5 In January, 1954, Permatwist filed three patent applications on the Flufon apparatus and process. Shortly thereafter, Permatwist asserted that its patent applications

Adopted Findings—Horizontal Conspiracy

covered Leeson's Model 550 or Superloft machine. In November, 1954, Permatwist and Leeson entered into negotiations which resulted in an agreement dated December 14, 1954. Under this agreement, Leeson acquired the Permatwist patent applications and other Permatwist inventions, together with all patents granted on said applications and any other patents granted on applications thereafter filed relating to the thermal processing of nylon and other yarns. Leeson was also assigned the Flufon license agreements previously entered into by Permatwist. Permatwist and Leeson agreed to share the production royalties collected by Leeson from Flufon licensees, and it was agreed that Permatwist would receive a portion of the selling price of Leeson's false twist machinery (the "machine royalty").

Annotations:

Vol. (19—pp. 3884-86 (Davis)

PX 354-472 (Leeson/Permatwist Agreement)

PX 32-473) show date on which the
PX 33-1928) three Permatwist applica-
PX 34-5119) tions were filed

15.6 Pursuant to its 1954 agreement with Permatwist, Leeson:

(a) sold its model 550 or Superloft machine "under a royalty-free license under the Permatwist patent applications". It was the policy of Leeson to issue a new license with respect to each machine or each group of machines sold at any particular time. The effect of that royalty-free license was to insulate the patents from attack by operation of the then-prevailing doctrine of license estoppel;

Adopted Findings—Horizontal Conspiracy

(b) undertook to sell Flufon attachments on a production-royalty basis. The license agreements issued by Leeson relating to the use of the Flufon attachment provided for a production royalty of \$.25 per pound for 70 denier yarns. At some point, Flufon licensees were offered a paid-up license and later the \$.25 was reduced to \$.075 per pound for those licensees that did not accept the paid-up license.

Annotations:

(a) PX 131-5228] Leeson 550 royalty-free
PX 355-477] license agreements.

Vol. 8—p. 1642 (Kopec)

Vol. 12—p. 2412 (Ferenbach)

Vol. 18—pp. 3759, 3775 (Leeson).

Vol. 19—pp. 3887-89 (Davis)—550 licensing policies; new license with each purchase.

Vol. 27—pp. 5585-86 (Roberts).

Vol. 76—p. 14848-89 (Conrad).

(b) PX 348-650—Flufon Royalty Agreement (identified by Leeson at Vol. 18—pp. 3775-76).

DX 728-4484—Schwarzenbach's Flufon License.

Vol. 8—p. 1551 (Kopec).

Vol. 15—p. 3152 (Hamilton).

Vol. 18—pp. 3764, 3775 (Leeson).

Vol. 18—pp. 3789-90 (Leeson)—history of Flufon royalties.

Vol. 27—pp. 5581-83 (Roberts).

DX 768-6—1958 Waters report: refers to the \$.25 per pound or paid-up Flufon royalty.

Adopted Findings—Horizontal Conspiracy

15.7 The patent applications acquired by Leesona from Permatwist issued on August 20, 1957, as United States patents 2,803,105, 2,803,108, and 2,803,109.

Annotations:

PX 32-473 ('105)
 PX 33-1928 ('108)
 PX 34-5119 ('109)

15.8 Beginning in early 1957, Leesona offered its Model 511 or Saaba attachment for post-treating stretch yarns produced by the false twist process. Patent applications were filed by Leesona relating to the 511 attachment and method. Although the use of the attachment was free of a continuing production royalty, all throwster customers were required to sign a license as a condition to the purchase of the attachment.

Annotations:

PX 224-3914
 through
 PX 247-3937—Leesona-Ferenbach correspondence
re sale and licensing of 511.

Vol. 12—p. 2428-29 (Ferenbach)—necessity for license to get 511; 511 free of production royalty.

PX 891-1932—Armitage memo 10/57—511 sold with a paid-up royalty.

PX 655-637—U.S. Patent 2, 864,229 (Saaba patent) (identified by Gurley at Vol. 31—p. 6311 and by Waters in PX 336).

15.9 With its development of a high-speed spindle which greatly increased the spindle speed of its integrated false twist machines, Leesona entered into a new agreement with Permatwist dated October 17, 1958. The new agreement provided for the manufacture and sale of false twist ma-

Adopted Findings—Horizontal Conspiracy

chines by Leesona with high-speed spindles incorporated as original equipment and also for the sale of high-speed spindles as replacement parts for existing machines. The agreement stated that it was an essential provision of the agreement that Leesona "require each purchaser of high-speed spindles or of machines or apparatus incorporating high-speed spindles to enter into a license agreement requiring said purchaser and licensee to pay [production] royalties on yarn produced thereon at the rate of \$.06 per pound for 70 denier yarn and for other deniers and constructions of yarn at such rates as [Leesona] may from time to time determine to be in reasonable proportion to said rate of \$.06 per pound for 70 denier yarn."

Annotations:

Vol. 19—p. 3889-92 (Davis).

PX 356-480—Leesona/Permatwist Agreement—10/17/58.

Vol. 27—pp. 5584, 5586-87 (Roberts)—difference in spindle speeds between 550 and high-speed spindle (551).

DX 768-6—Waters memo 9/58: Superloft operates at 40-45,000 rpm.

PX 378-3577—Leesona announcement of high speed spindle 10/58: 140,000-150,000 rpm.

15.10 Leesona began offering its high speed spindles and machines in 1958. From 1958 until at least the commencement of this litigation, Leesona made no sales of any high-speed spindles or any machines incorporating high-speed spindles without the purchaser having first signed a license agreement providing for the payment of a production royalty at the rate of \$.06 per pound for 70 denier yarns. It was the sales policy of Leesona to refuse to sell its high-speed spindles and high-speed machines in the absence of

Adopted Findings—Horizontal Conspiracy

an executed license agreement requiring the payment of a production royalty.

Annotations:

PX 248-481—form of Leeson high-speed license agreement (see Vol. 12—pp. 2431-32).

Vol. 18—pp. 3779-81, 3804 (Leeson)	} high-speed licensing policy: would not sell high- speed spindles without produc- tion royalty.
Vol. 19—pp. 3890-93 (Davis)	

Vol. 15—pp. 3087-88 (Hamilton)—had to sign license to get 553 machines in 1963.

Vol. 27—pp. 5586-87, 5590 (Roberts)—production royalty license to convert to high-speed operation; paid royalty.

15.12 As DMRC and Chavanoz began to consider licensing of the ARCT machine in the United States in 1956-1958, the availability of Leeson's 550 machine (which was the only integrated false twist machine then being sold in the United States) on a royalty-free basis posed a serious threat to DMRC and Chavanoz' plan to require users of ARCT false twist machines to pay a substantial production royalty. This potential threat was identified at an early date and became a prime topic in the discussions between Armitage and Soep prior to the execution of the 1957 Agreement.*

* This threat was also recognized by Waters in his September, 1958 study of false twist texturing. DX 768-6.

*Adopted Findings—Horizontal Conspiracy**Annotations:*

PX 375-361 —Armitage to Soep 9/17/57: "The royalty question is, of course, the most difficult of these, particularly in view of the competition with the 'Superloft' machine. Since there is no royalty whatsoever chargeable to the user of the 'Superloft' equipment (the royalty being covered in the purchase price), this poses a very difficult question for us."

PX 376-335 —Armitage to Soep 2/10/58: "This is a very important point in view of the fact that we want to charge a royalty to 2½% of the raw yarn price at a time when there is no royalty to be paid on the 550 machine"

PX 377-330 —Armitage to Soep 8/17/57: "I feel that we are strictly limited in what we can ask by the low royalties now charged by Heberlein on this side and particularly the possibility of royalty-free operation through use of the Universal Winding equipment".

PX 96-325 —Armitage to Soep 3/26/57: "They [Universal] have sold several hundred of these frames on a paid-up royalty basis, and their customers will obviously resist the payment of a production royalty. Furthermore, it will be difficult to get manufacturers to buy the Chavanoz equipment with a production royalty attached when the 550 machines are being offered commercially on this paid-up basis".

PX 891-1932—Armitage to Newton 10/57: contains a similar recognition with respect to the royalty-free Saaba or 511 attachment; if UWC continues to sell on a paid-up basis, it will be increasingly difficult to put into effect a licensing program on production.

15.13 Chavanoz' initial response to the threat of competition posed by Leeson was to assert its patents. In March, 1956, after negotiations with DMRC had been opened, Chavanoz notified Leeson of its assertion that the Leeson 500 machine infringed one or more of the Chavanoz false twist patent applications and offered to license Lee-

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sona under those applications. Leeson refused to take a license under the Chavanoz applications and denied that its machine infringed any of the applications. After the issuance of the first two Chavanoz patents in 1956, Chavanoz repeated its infringement claims against Leeson, which once again denied that its 550 machine infringed the Chavanoz patents and refused to take a license.

Annotations:

DX 134-493	] re events in March 1956.
PX 559-310	
PX 351-649	
PX 345-647	] re subsequent
PX 347-316	
PX 349-495	
Vol. 18—pp. 3822-24 (Leeson)	
Vol. 19—pp. 3914-15 (Davis)	
	] assertions by
	] Chavanoz and
	] denial/refusals
	] by Leeson.

15.14 At no time subsequent to 1957 did Chavanoz or DMRC charge that any of Chavanoz' United States patents were infringed by the manufacture, sale or use of Leeson false twist texturing machines.

Annotations:

Vol. 7—p. 1324 (Armitage)
 Vol. 19—pp. 3987-88 (Armitage)
 Vol. 21—pp. 4346-47, 4380 (Armitage)
 Vol. 25—pp. 5204-05, 5276, 5280 (Armitage)
 Vol. 18—p. 3825 (Leeson)
 Vol. 19—p. 3958 (Davis)

15.15 The initial threat to the DMRC-Chavanoz licensing program posed by the royalty-free Superloft machine was

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removed in October, 1958 with Leeson's announcement of its new production royalty program.

Annotations:

See Findings 15.9-15.10, *supra*.

Vol. 19—pp. 3992-93 (Armitage)—institution of Leeson high-speed royalty program beneficial to DMRC.

15.16 Leeson's development of a high-speed spindle and the inauguration of its new production royalty program was immediately made known to DMRC, even prior to the October 17, 1958, modification to the Leeson/Permatwist agreement which formalized the new royalty program. On October 7, 1958, the day after Leeson's own internal announcement of the new spindle, Armitage met with Leeson personnel to discuss the new Leeson high-speed spindle and immediately thereafter advised Chavanoz. By October 10, 1958, DMRC had received a copy of Leeson's new high-speed license agreement calling for a \$.06 per pound production royalty on 70 denier yarns.

Annotations:

PX 378-3577—Leeson internal memo fixes date of announcement of Leeson high-speed royalty—10/6/58.
 PX 379-106—Armitage diary, for 10/7/58 reflecting meeting with Leeson re high-speed spindle.
 PX 380-3175—Armitage letter to Soep dated 10/8/58: advises of Leeson's new 6¢ royalty.
 PX 381-372—Copy of Leeson high-speed license agreement showing DMRC receipt stamp of 10/10/58.
 PX 356-480—Leeson/Permatwist agreement—10/17/58.

15.17 In the case of the Leeson patents, Armitage and Soep had concluded as early as 1957 that these patents

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were probably invalid. These opinions were reached independently and were based on separate prior art searches made on behalf of DMRC and Chavanoz.

Annotations:

Vol. 7—pp. 1316-17; 1319-21 (Armitage)

Vol. 25—pp. 5279 (Armitage)

15.18 Having recognized at a very early date that continuation of their respective licensing programs depended upon all false twist machines being subject to a production royalty,* Chavanoz and DMRC made an attempt to bring all false twist machines under the umbrella of their contemplated licensing program and thereby eliminate the threat of royalty-free machines. On November 22, 1957, as the 1957 Agreement was being finalized, DMRC commenced an action in the United States District Court for the Eastern District of New York (the "Brooklyn litigation") in which it sought to obtain for itself Leeson's false twist and post-treating (i.e., rights to Leeson's 511 or Saaba attachment) patents. If this suit had been successful, the threat of Leeson's then royalty-free licensing program would have been removed by bringing those patents under the Chavanoz-DMRC licensing program.

The 1957 Agreement provided an added incentive to bring Leeson machines under the Chavanoz-DMRC licensing umbrella. A provision in that agreement specified that

* Recognition of the possible consequences of unlicensed competition can be found even in the 1954 Agreement (PX 1-221). The "kick-out" provision contained therein (and continued in the 1962 Agreement) provided that if there appeared on the market false twist machines which did not come within the Chavanoz patents, Chavanoz would authorize ARCT-France to deliver to non-licensees. See Finding 14.13, *supra*.

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the production royalty to be charged United States throwsters would be 5% of the manufacturer's list price of raw yarn, but that DMRC could adjust the rate to as low as 2½% if there were "substantial unlicensed competition." Leeson represented such "unlicensed competition." Thus, a victory by DMRC in the Brooklyn litigation would have permitted the Chavanoz-DMRC royalty rate to be 5%.

Annotations:

PX 2-138—1957 Agreement, ¶ 9.

PX 93-300—Complaint: DMRC v. Universal Winding.

PX 383-333	}	indicate relationship between Brooklyn suit and DMRC-Chavanoz Agreement.
PX 384-334		
PX 385-337		
PX 386-382		
PX 1042-383		

See Finding 14.19, *supra*, which discusses the references to the dispute with Universal which are contained in the 1957 Agreement.

15.19 In the Brooklyn litigation, DMRC sought a judgment ordering Leeson to (a) assign and transfer to DMRC Leeson's entire right, title and interest in and to the inventions embodied in the Leeson 511 or Saaba attachment and any and all patent applications and patents disclosing or claiming said inventions, and (b) assign and transfer to DMRC Leeson's entire right, title and interest in and to the inventions embodied in the false twist apparatus and process licensed by Leeson and any and all patent applications and patents disclosing or claiming said inventions, including United States Patents 2,803,105, 2,803,108, and 2,803,109. The purported basis for this suit was an agreement dated November 23, 1954, between DMRC and Leeson by which DMRC granted Leeson a license to manufacture and sell edge-crimping apparatus. This agree-

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ment provided that any improvements on the edge-crimping process or apparatus made or acquired by Leeson, together with any and all patent applications and patents granted thereon, would become the property of DMRC.

Annotations:

PX 93-300—DMRC v. Universal Winding Complaint

15.20 At all times while the Brooklyn litigation was pending, DMRC and Chavanoz were of the opinion that the '105, '108 and '109 patents were invalid. Indeed, in 1961, before the case went to trial, DMRC withdrew its allegations with respect to those patents and proceeded to trial only as to the 511 or Saaba attachment. The suit was eventually won by Leeson—i.e., the court held that DMRC was not entitled to ownership of the Leeson rights.

Annotations:

See Finding 15.17, *supra* re opinion that Leeson patents invalid.

PX 1044-117—Armitage letter 8/61: evidence developed should convince any court that patents are invalid.

PX 95-301—Brumbaugh opinion *re* invalidity of '105, '108 and '109 patents.

PX 567-1686	]	statements by Armitage, Soep, Waters
PX 569-1603	]	<i>re</i> knocking out the Leeson patents.
PX 265-1006]	

DX 640-3599—claims dropped with respect to '105, '108 and '109 patents (6/61).

Vol. 7—p. 1316 (Armitage)	]	Leeson won liti-
Vol. 7—pp. 14813-14 (Conrad)	]	gation.

15.21 DMRC also provoked interferences with Leeson in the United States Patent Office in a further attempt to gain control of United States patent rights relating to false twist and post-treating:

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(a) In connection with the prosecution by DMRC of a patent application filed on March 1, 1952, by E. Dare Bolinger and Norman Klein, DMRC provoked an interference with Leeson with respect to Leeson's United States Patent 2,803,108 on the ground that Bolinger and Klein were the first inventors of the subject matter claimed in the '108 patent; and

(b) In connection with the prosecution by DMRC of a patent application filed July 8, 1955, by Klein et al., DMRC provoked an interference with Leeson with respect to Leeson's United States Patent 2,864,229 on the ground that Klein et al. were the first inventors of the subject matter claimed in the '229 patent.

Annotations:

DX 635—papers *re* '108 interference
DX 642—papers *re* '229 interference

15.22 During the late 1950's and early 1960's, Leeson was also maneuvering to gain control over all false twist machines in the United States. As other manufacturers began to offer royalty-free false twist machines or machine parts in competition with Leeson, Leeson sought to eliminate such machines, or at least bring them under the Leeson licensing program, by instituting infringement suits under the '105, '108 and '109 patents:

(a) Mechanical Specialty Company (Joe Smith), not a manufacturer of false twist machines, but a seller of high-speed spindles, was sued in 1958. Leeson contended that use of these spindles on machines previously purchased from Leeson constituted an infringement of Leeson's patents;

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(b) Based on this contention, Leesona instituted suit against Madison Throwing Company for infringement allegedly resulting from Madison's use on royalty-free 550 machines of high-speed spindles purchased from Mechanical Specialty;

(c) Gibbs Machinery Company was sued for infringement allegedly resulting from the manufacture and sale by Gibbs of an integrated, high-speed false twist machine* and

(d) Southern Silk was sued for infringement allegedly resulting from the use by Southern Silk of Scragg machines and of certain homemade machines.

Annotations:

Vol. 18—p. 3782 (Leeson)

Vol. 76—p. 14800-04 (Conrad)

DX 639-498—1/4/61 Leesona memorandum listing pending infringement actions by Leesona.

DX 129-477—Complaint: *Leesona v. Madison*.

PX 1204—Soep to Waters 9/4/62 discusses Southern Silk suit.

DX 733—Pretrial stipulation in Madison, Smith, Gibbs litigation.

15.23 Leesona soon developed another plan to eliminate the possibility that royalty-free false twist machines would become available to United States throwsters. As early as 1959, it offered Scragg, a British manufacturer, a one-third share in its royalties (e.g., \$.02 per pound on 70 denier yarns) in return for Scragg's accepting a license under

* The suits against Madison, Mechanical Specialty and Gibbs were eventually consolidated (DX 733; see PX 1209-2072).

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Leesona's patents to sell Scragg machines to Leesona licensees. Identical conditions were proposed to other competing manufacturers of false twist machines or parts, including Chavanoz, prior to 1961. In substantially similar form, these conditions eventually were accepted by some 13 competitors or potential competitors (including Scragg), none of which was a significant factor in the American market prior to this litigation (See Finding 15.81, *infra*).

Annotations:

PX 352-665—1959 offer to Scragg: told Scragg that if it knocked patents out completely, it would only set up a price fight on machine sales.

DX 137-485—Davis letter of 1/12/61 which refers to offers to Scragg, Chavanoz and others.

Vol. 18—pp. 3829-30 (Leeson)—began offering such licenses in the '50's.

Vol. 19—pp. 3893-3907 (Davis) Leesona's manufacturers licensing program.

PX 360-491—list of false twist machine manufacturers licensed by Leesona (identified by Davis at Vol. 19—p. 3902).

Vol. 14—pp. 2921-22 (Waters)—substantial orders for Scragg, Barmag, Heberlein came in past 2-2½ years (testimony given 11/71).

15.24 The first false twist machinery manufacturer to accept such an arrangement (Leesona's "standard manufacturer's license") with Leesona was Heberlein Patent Corporation on April 1, 1962. Similar agreements were entered into with Mechanical Specialty Company (Joe Smith) and Gibbs Machinery Company in 1963 in settlement of the infringement actions that Leesona had insti-

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tuted.* Each of these standard manufacturer's licenses contained the following provisions:

(a) The competing manufacturer was licensed to sell its false twist machinery only to purchasers that had executed Leesona's royalty bearing license agreement;

(b) If the manufacturing licensee should sell to a purchaser not licensed by Leesona, the agreement would terminate, either automatically or at the option of Leesona;

(c) Leesona maintained full control over the royalty rates and terms of the license agreement granted to purchasers of the competitor's false twist machinery; and

(d) Leesona agreed to pay the competing machinery manufacturer one-third of the production royalties collected by Leesona by virtue of the operation of the competitor's false twist machinery.

In short, the licensor (Leesona) paid royalties to the licensee (competing manufacturer) so that the licensee's machines would be subject to a production royalty.**

* The suit against Southern Silk was likewise settled. The settlement was a "sweatheart" deal under which Southern Silk received a royalty free license for approximately 2000 spindles and paid no damages (PX 1204; Vol. 76—pp. 14915-19 (Conrad); PX 354-472). Although these terms did not appear in the press release (DX 732), they were made known to Leo Soep (PX 1204).

** On November 5, 1976 the United States Court of Appeals for the Fifth Circuit sustained a ruling made on motions for summary judgment brought by certain throwsters, that Leesona's system of standard manufacturers' licenses constituted vertical price fixing in *per se* violation of Section 1 of the Sherman Act. *In re Yarn Processing Patent Validity Litigation*, 541 F.2d 1127 (5th Cir. 1976).

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Annotations:

PX 219-484—Leesona/Heberlein Agreement.

PX 1046-486] Leesona/Mechanical Specialty
DX 649-4120] Agreement.

DX 650-4121—Leesona/Gibbs Agreement.

PX 374-487—Leesona/Scragg Agreement.

Vol. 19—pp. 3960-62 (Davis) re termination provision.

15.25 After Whitin actually began selling the ARCT false twist machine in this country, Leesona tried to bring the ARCT machines under its licensing program. In April 1960, it instituted suit in the United States District Court for the Western District of South Carolina against Judson Mills Division of Cotwool Manufacturing Company, a DMI affiliate, for infringement of the '105, '108 and '109 patents allegedly resulting from Judson's use of ARCT machines (the "Cotwool litigation").*

Annotations:

PX 405-415] show date and nature of
PX 409-32] Cotwool suit.

15.26 DMRC and Chavanoz retaliated on May 11, 1960, by filing suit in the name of Whitin against Leesona in the United States District Court for the District of Massachusetts (the "Whitin litigation"). This suit sought a dec-

* Likewise, in November, 1961, Leesona began an arbitration proceeding against Schwarzenbach, both a Leesona licensee and a DMRC licensee, attempting to collect royalties under the Schwarzenbach/Leesona license by reason of Schwarzenbach's operation of ARCT machines. DX 728-4484 (Schwarzenbach-Leesona license); DX 727-4481 (demand for arbitration); DX 641-4504 (agreement by DMRC to defend Schwarzenbach in arbitration).

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laratory judgment that the Leeson '105, '108, and '109 patents were invalid, unenforceable and not infringed by the use of ARCT false twist machines. Chavanoz and DMRC urged Whitin to bring this suit, actually controlled the litigation, and paid 100% of its costs.*

Annotations:

DX 638—Complaint: *Whitin v. Leeson*.

PX 406-418	|	Chavanoz-DMRC
PX 408-846	|	control of litigation.
Vol. 20—pp. 4084-85 (Armitage)	|	

15.27 In December 1960, after the commencement of the Cotwool and Whitin litigations, Warren Seem, one of the inventors of the Leeson false twist patents and one of the Permatwist partners, recognized that Leeson and DMRC were involved in patent interferences and contract litigation and were "engaged in licensing identical [false twist] processes requiring endless patent litigation." Seem proposed to Armitage that "instead of slugging it out in the public square, we join hands and do something good for the industry as well as ourselves." Initial settlement discussions began a few weeks later.

Annotations:

See Findings 15.29-15.30, *infra* re initial settlement discussions.

DX 136-438—Seem's letter to Armitage 12/60.

15.29 There was an initial settlement meeting on February 9, 1961 at which various proposals for settling not

* The Cotwool litigation was eventually transferred to Massachusetts and consolidated with the Whitin litigation. See 308 F.2d 895 (4th Cir. 1962) [DX 643-3569].

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only the Cotwool and Whitin litigations, but also the Brooklyn litigation and the patent interferences, were discussed. During the meeting, Davis and Seem confirmed to Armitage that the Leeson royalty on 70 denier yarn was \$.06 per pound (See Finding 15.10, *supra*). With respect to the licensing of false twist patents, Leeson proposed that DMRC take a standard manufacturer's license: according to that proposal, Leeson would do the licensing under its standard use license and all licensees would pay \$.06 per pound on 70 denier of which \$.02 (or one-third of the royalty on other deniers) would be given back to DMRC. Bob Waters characterized Leeson's proposal as a whole (which included post-treating as well as false twist patents) as one which "cuts up the pie" in such a way that Leeson "gets the major portion", in that Leeson would dominate false twist while DMRC dominated post-treating. He recognized that the Leeson proposal would increase the royalty on ARCT machines to "about 3.5% of the raw yarn cost as compared to our present royalty of 2.5%.*" DMRC proposed that the *Cotwool* and *Whitin* suits be dismissed with admissions of the *validity* of the Leeson patents (and presumably with the understanding that the DMRC and Leeson licensing programs would continue). No settlement was reached at this time.

* The 2½% rate at which DMRC's initial licenses were issued (see Finding 14.28, *supra*) worked out to approximately \$.042 per pound on 70 denier nylon (PX 418-444; PX 1227).

*Adopted Findings—Horizontal Conspiracy**Annotations:*

- PX 415-441] fix date of meeting
 PX 335-5253]
- PX 416-422] exchange of correspondence between Armitage and Kopec in which Armitage states that
 PX 417-443] Davis and Seem told him in a recent discussion that the Leeson royalty was \$.06 on 70
] denier [the rates set forth in PX 416-442
] apparently refer to the Fluflon, rather than
] Superloft, royalty—see Finding 15.6, *supra*.
- PX 415-441] show that Seem and Davis, *inter*
 PX 335-5253] *alia*, were at 2/9/61 meeting
- PX 335-5253—Brumbaugh to Soep 2/10/61: contains proposals advanced at meeting.
- PX 336—Waters' comments *re* proposals.

15.30 In March, 1961, Soep discussed settlement of the United States litigation involving Leeson's false twist patents with Warren Seem (one of the Permatwist partners) and Robert Conrad, Leeson's trial attorney. They discussed a cross-licensing proposal involving an increase in the DMRC production royalty rate from 2½% to 5% of the manufacturer's list price for raw yarn and a division of the royalties collected by DMRC from ARCT machine users among DMRC, Chavanoz and Leeson. Waters objected to this proposal on the ground that ARCT machine users would be required to pay a royalty of \$.0855 per pound on 70 denier nylon yarn whereas Leeson machine users would pay only \$.06 per pound. Waters' reaction was that "the pie would be very nicely divided" and that Whitin would wind up with the empty plate since the royalty discrepancy would place it at an "immediate disadvantage" in selling machines.

*Adopted Findings—Horizontal Conspiracy**Annotations:*

- PX 1205] Conrad counsel to
 PX 439A-2135] Leeson in suits.
 Vol. 76—p. 14817 (Conrad)]
- PX 1043—Soep to Armitage 3/21/61 re cross-licensing proposal.
- PX 418-444—Waters to Soep 3/24/61: cross-licensing proposal would leave Whitin with an empty plate.
- Vol. 79—pp. 15530-31 (Waters)—with reference to PX 1043 and PX 418-444 Waters testified that he was annoyed at "their having conferences in some remote area to apparently divide a pie . . . they were playing around with our bread and butter . . . there was every indication that the royalties on our machines would be higher than those of the competitor . . . sales of machines would be unquestionably interfered with."

15.31 Between 1961 and 1963 there were apparently no formal settlement discussions. As for the litigation itself, although there was a certain amount of procedural maneuvering, such as motions to sever and transfer, add parties and stay the Leeson-Schwarzenbach arbitration, the Whitin suit was stayed for two full years from March 1961 until April 1963.

Annotations:

- PX 1205—Whitin litigation docket sheets.
- DX 643-3569—4th Cir. decision in Cotwool suit 10/62: describes procedural moves in that case.

15.32 On May 21, 1963, Leo Soep met with Albert Davis of Leeson, to discuss settlement of the litigation pending in both the United States and France. At that meeting, Leeson, DMRC and Chavanoz reached an agreement in principle to share with Leeson the production royalties received by DMRC and Chavanoz on ARCT machines. Various formulas for sharing were discussed, with Davis

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proposing that Leeson receive two-thirds and DMRC/Chavanoz one-third using the vehicle of the Leeson standard manufacturer's license.

Despite the agreement in principle, disagreements over treatment of machines already installed and statements by Leeson salesmen to prospective ARCT customers arose and that agreement was not then implemented in a settlement. Davis and Soep, however, tentatively agreed to meet again in mid-June in the United States.

Annotations:

- | | | |
|--------------|--|---|
| PX 363-500-A | \| | memorandum of Davis-Soep meeting—"agreement in principle" expressly recited and sharing proposals and discussions summarized (document and method of preparation identified and described by Davis at Vol. 19—pp. 3920-21). |
| PX 420-451 | | |
| PX 421-452 | \| | subsequent correspondence between Soep and Davis; disagreements over installed base and statements by Leeson salesmen. |
| PX 422-453 | | |

15.33 On May 28, 1963, Davis spoke by telephone with Ward Smith, Whitin's secretary and house counsel. In the course of that conversation, Smith proposed a basis for settlement under which DMRC would license throwsters on new machines at \$.06 (inferentially for 70 denier—i.e., equal to the higher Leeson rates rather than the existing DMRC rates). These higher DMRC royalties would be shared on some basis to be agreed upon, and the next day apparently Smith requested an equal split. As an obvious follow-up to the Smith proposal to raise DMRC royalties to the Leeson level, Davis on June 4, 1963, sent Smith a copy of Leeson's standard high-speed production royalty agreement and Whitin thereafter prepared a careful tabulation comparing the royalty rates at various deniers. In

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a telephone conversation on June 6, 1963, Smith and Davis set up a meeting among the parties for June 18 or 19, 1963 at the Algonquin Club.

Annotations:

- Vol. 67—p. 12909 (W. Smith)—secretary and house counsel of Whitin.
- PX 364-503—Davis' notes of May 28, 1963 telephone conversation: "Will pick up all machines in the country—6¢ royalty in future. But no back royalty or damages. DMRC to do the licensing—feel N.A. will insist on D.M. being the licensor." A note dated the next day states "can we go to 3¢." (identified and explained by Davis at Vol. 19—pp. 3925-28; N.A. refers to Norman Armitage).
- Vol. 67—p. 12972 (Ward Smith)—in these discussions with Davis he did not discuss terms of Leeson license.
- PX 365-504—Davis to Smith 6/4/63 enclosing Leeson royalty agreement.
- PX 350-660—Notes of June 6, 1963 telephone conversation re meeting.
- PX 1165—Davis to Soep 6/4/63 *re* Smith setting up meeting.
- PX 1227—Whitin document 6/10/63 comparing Leeson and DMRC royalty rates—e.g., \$.06 v. \$.04275 per pound on 70 denier nylon.

15.34 DMRC and Chavanoz recognized that they would not be able to command anywhere near as large a royalty on ARCT machines if Leeson were successful in asserting its patents against those machines. Around May 1963, Whitin *began* to experience some difficulties in selling machine because of the possibility of "double" royalties—i.e., one to DMRC and one to Leeson—in the event Leeson were to prevail in the litigation. Whitin knew that double royalties would destroy all interest in ARCT machinery. This development led to discussions between DMRC and Chavanoz concerning possible adjustments in their royalty

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rate to take into account the various contingencies raised by the pending litigation.

Annotations:

PX 419-448—Armitage to Soep 5/8/63 re concern over double royalties: "*This is something new . . .*"; feels it is inspired by Leeson; ". . . quite frankly, I feel that we would not be entitled to a full royalty if the equipment is held to be dominated by the Leeson patents." (emphasis added)

PX 1309 —Armitage memo 10/60: litigation having "very little influence upon the sale of the machines".

PX 1049 —Waters memo 12/62: attributes static condition of machines sales in large part to DuPont announcement of planned production of textured yarns.

PX 1226 —Waters to Bolton 4/12/63: threat of litigation detrimental; biggest concern is reluctance to sign license and become associated with DMRC.

DX 132 —Waters to Brumbaugh 5/20/63: "The consensus of opinion in this industry today is that all interest in ARCT machinery will cease if double royalties representing a total in excess of present Leeson royalties are established on ARCT machines."

DX 477 —Throwster to Mueller 5/21/63 re litigation: profit margin in industry cannot allow payment of double (*or higher*) royalties.

PX 421-452—May 1963 Davis—Soep Correspondence mentions
PX 422-453—statements by Leeson salesmen to potential ARCT customers re double royalties.

DX 132	}	illustrate selling problems over double royalties around May 1963.
DX 82-214		
DX 83-4074		
DX 84-215		
DX 735		

through	}
DX 739	
DX 477 (DX 781)	

DX 86-4875	}	re discussions between DMRC and Chavanoz re possible royalty adjustments in view of litigation contingencies.
DX 474		

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15.35 While the discussions between Davis and Soep and Davis and Smith were in progress and despite Whitin's recent problems in selling machines, DMRC, Chavanoz and Whitin met on June 12, 1963, and agreed to raise the DMRC production royalty rate from 2½% to 3½%. The agreement further provided for a sharing of royalties among the three parties and that the new royalty rate could be changed only with the consent of DMRC, Chavanoz and Whitin. Pursuant to this agreement, the royalty rate for all new DMRC licensees was 3½% rather than the prior royalty of 2½%. Pending resolution of the Whitin litigation, all royalties, except for .6% of the raw yarn price (i.e., 2.9%) collected by DMRC from new licensees were to be placed in an escrow account. If the litigation with Leeson were lost, the escrowed amount would be returned to the licensee; if the suit were won, the escrowed amount would go to DMRC. DMRC offered existing licensees the option of remaining at 2½%, without the benefit of the escrow, or of paying 3½% subject to the escrow.

Although the new royalty rate and escrow arrangement were communicated to all present and prospective DMRC licensees, no deposits were ever made in the escrow account which had been established.

Annotations:

DX 744-454—Mueller diary re meeting

PX 296-12 —6/12/63 Agreement; terms were later incorporated into a supplemental Chavanoz-DMRC Agreement (PX 2-138, Tab K).

PX 423-672	}	new licensees had no option—all new licenses were at 3½%.
PX 457-673		
Vol. 20—p. 4156 (Armitage)		
Vol. 80—p. 15641 (Waters)		

DX 760 —letters re escrow sent to prospective licensees.

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DX 761—letters *re* escrow sent to existing licensees.

Vol. 20—pp. 4164-65 (Armitage)] escrow never set up.
PX 298-671	
PX 424-3220	
PX 425-3222	

15.36 As a result of the June 12, 1963, agreement, the DMRC and Leeson royalties on 70 denier nylon yarns, by far the most popular yarns then being processed by throwsters, were, for all practical purposes, identical and it was upon that denier that the participants in the June 12, 1963 meeting focused. The royalty payable by DMRC licensees under licenses signed after June 12, 1963, and for those existing licensees who elected to take the escrow arrangement, was \$.05985 per pound on 70 denier nylon yarns, based upon the long-established manufacturer's price of \$1.71 per pound. The royalty payable by Leeson machine users on 70 denier nylon yarn continued to be \$.06 per pound. In August, 1963, Waters referred to the \$.06 per pound royalty as "a standard royalty collected on all false twist produced yarn." In March 1964, Armitage told a throwster that "about 80% of false twist production in this country is on 70 denier nylon, and at this point our 3.5% [royalty] amounts to the same 6 cents per pound which Leeson is charging."

Annotations:

PX 975 —Waters quote.

PX 434-677 —Armitage quote.

PX 574-5284—large chart illustrating parity of rates on 70 denier nylon (based on PX 434-677).

Vol. 67—p. 12973-74 (W. Smith)—recalls fixing ("nailing down") 70 denier—the most popular denier by far—at the equivalent of \$.06 per pound.

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Vol. 18—pp. 3670-71 (Bolton)—charts had been prepared; conversations *re* 70 denier being most popular; 3½% would equal \$.06.

PX 433-459 —Armitage to Milliken 7/63: with recent increases to 3½¢, DMRC royalties on 70 denier nylon equals Leeson's.

PX 371-592 —similar statement *re* parity by Leeson

PX 450-803 —similar statement *re* parity by Soep

Vol. 18—p. 3845 (Leeson)—DMRC royalty change brought about by parity.

PX 573-1685—Leeson chart showing virtual parity on 70 denier nylon.

Vol. 18—p. 3790-92 (Leeson)—Leeson has never made any change in its \$.06 royalty on 70 denier.

DX 768-6] show long-standing \$1.71 list price of 70 denier nylon (from 1958 until 1969).
DX 789	
DX 810-129	
DX 811-130	
Vol. 18—p. 3730 (Waters)	
PX 1007	

DX 786-6 —1958 Waters report: practically all yarns are 70 denier.

Vol. 76—p. 14967-68 (Conrad)—in 1963 bulk of Leeson's royalties came from 70 denier.

The documents in this annotation illustrate that 70 denier was consistently the reference point for discussions about royalties. See also PX 354-472; PX 417-443; PX 1051-675. As shown in Findings 15.29-15.30, 15.32-15.33, *supra*, Leeson's standard manufacturer's licenses were often referred to using the short-hand phrase "4¢-2¢" split which had reference to the 6¢ 70 denier royalty. See also PX 366-510.

15.37 The escrow arrangement removed whatever problems Whitin may have had in selling machines because of the pending litigation with Leeson. In the last six months

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of 1963 and first quarter of 1964, Whitin sold more ARCT machines than it had previously sold in all the years since it began selling in the United States in 1959. Throughout the fall of 1963 and at least through March 1964, Whitin was taking orders for machines faster than it could get deliveries from France.

Annotations:

DX 51-10—List of Whitin machine orders: show more machine orders booked in last six months of 1963 and first quarter of 1964 than in all previous years combined.

PX 1052 —Waters memo 10/63: by end of 1964 "I must prepare for machine deliveries against an approximate \$4,000,000 sales".

PX 1053 —Waters letter 11/63: sales are "heavy"; deliveries "extended"; projected deep into 1964.

DX 133 —Bolton/Waters Report 1/64: stretch yarn market "frantic"; delivery problems—schedule pushed back; current market a "panic" market.

PX 1056 —Waters report 2/64: presently quoting delivery for 4th quarter; \$2,000,000 lost by inability to quote within a 6-month delivery schedule.

PX 1057 —Waters memo 3/64: sold through 1964.

PX 1050-3427)

PX 1051-675)

PX 1054)

PX 1055) also show heavy

PX 1223) sales and deliveries

DX 98-8527) lagging behind orders

DX 773) during this period.

DX 774)

DX 776)

Vol. 82—p. 15876 (Waters)—took a "very substantial" number of orders for FT-3's in 1963.

Vol. 82—pp. 15933-34 (Waters)—became dept. manager at Whitin when sales began to take off (PX 1223 fixes time as 11/63).

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Vol. 82—p. 15972-74 (Waters)—winter of 1963-64 was a heavy period for FT-3 sales.

Vol. 18—pp. 3676, 3678, 3708 (Bolton)—excellent sales in 1963, early 1964.

Vol. 76—p. 14924 (Conrad)—at time of settlement (3/31/64) all manufacturers had big backlogs.

15.38 On June 18, 1963, representatives of Leesona, Permatwist, DMRC, Whitin and Chavanoz met at the Algonquin Club in Boston to discuss settlement of the pending litigation involving the Leesona false twist patents. Leesona offered its standard manufacturer's license under which ARCT machine users would pay a production royalty to Leesona and Leesona would in turn pay one-third of the royalties collected from such users to DMRC and Chavanoz. Whitin, through Ward Smith, proposed (on behalf of itself, DMRC and Chavanoz) that the parties enter into a consent judgment acknowledging the validity of Leesona's false twist patents in return for an acknowledgment by Leesona that these patents were not infringed by the ARCT machines. The offers were rejected and a settlement was not reached.

Annotations:

PX 431-457] Armitage and Mueller diary

PX 432-458] entries for 6/18/63.

PX 336-310—Davis' notes of meeting: lists the Leesona and Ward Smith proposals (identified by Davis at Vol. 19—p. 3930-31).

Vol. 18—p. 3671 (Bolton).

Vol. 18—pp. 3792-93, 3794, 3815, 3837-38 (Leeson)—offer of standard manufacturer's license only offer Leeson can remember making; DMRC et al. did not accept (testimony does not specifically relate to Algonquin Club meeting).

Vol. 76—pp. 14881, 14885-86 (Conrad)—Leesona offer of standard manufacturer's license at Algonquin Club meeting.

PX 443-3573—reflects Leesona offer at Algonquin Club meeting.

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15.39 The Ward Smith proposal was made despite the fact that Chavanoz, DMRC and Whitin were firmly convinced as to the invalidity of the Leeson patents, but quite pessimistic, because of the broad claims in the Leeson patents, as to their chances of prevailing on the issue of non-infringement.

Annotations:

See Findings 15.17, 15.20, *supra*, and 15.46, *infra*, *re* belief as to invalidity.

Vol. 21—p. 4327, 4338 (Armitage)] pessimism <i>re</i> non-infringement of Leeson patents.
Vol. 25—p. 5206 (Armitage)	
Vol. 67—pp. 13005-06 (W. Smith)	

PX 94-302—Armitage to Soep 10/58: the Leeson claims “are extremely broad”.

15.40 After the Algonquin Club meeting, on the evening of June 18, 1963, Leeson confirmed DMRC’s increase in its royalty rate in a conversation with Jack Bolton, then vice president in charge of sales for Whitin. Leeson reminded Bolton that there was more at stake than just settlement negotiations—“we are talking about this whole atmosphere of whether there is going to be a royalty or whether there isn’t”.^{*} Leeson stated that if the Leeson patents were held invalid so that Leeson machines were no longer subject to a production royalty, then Whitin might find itself “in a position of selling a machine which commands a royalty against one which has no royalty”.

Annotations:

DX 131-511—Leeson memo of conversation with Bolton.

Vol. 18—pp. 3675-76 (Bolton)—Leeson statements quoted in text.

^{*} When Whitin first got into the business of selling false twist machinery, Leeson had told Bolton that the receipt of production royalties was essential in order for the business to be profitable: the “gravy” was in the royalties. (Vol. 18—pp. 3673-74 (Bolton).)

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15.41 From the onset of settlement negotiations—from the concept of “joining hands” (Finding 15.27, *supra*) through the proposals for royalty sharing in 1961 (Finding 15.29-15.30, *supra*), the May 1963 “agreement in principle” (Finding 15.32, *supra*), and as demonstrated by the Ward Smith Algonquin Club proposal to admit validity of the known-to-be-invalid Leeson patents (Finding 15.38, *supra*)—the underlying tenet of the settlement discussions between defendants and Leeson was one which Robert Leeson expressed succinctly in August 1963: “Everything to settle so that all competitors [charge] a royalty.”

Annotations:

PX 353-5258—(identified by Leeson at Vol 19—p. 3861)

15.42 As early as June 1963, Leeson and Davis had professed to be “gloomy” about winning the Whitin litigation and felt that a settlement was desirable. DMRC, Chavanoz and Whitin had wanted the case in the First Circuit, Whitin had filed its suit there, and they had successfully managed to have the litigation consolidated in Massachusetts before a judge whose record, according to Leeson’s counsel, was “frightening to a patent owner.” Accordingly, in December 1963, when the judge set the case down for an early trial, Leeson initiated some last minute maneuvering, culminating in the filing of a mandamus petition in the Court of Appeals for the First Circuit.

Annotations:

PX 372-593—Minutes of Leeson—Permatwist meeting of June 16, 1963 at which Leeson and Davis expressed being “gloomy” about winning suit.

PX 405-415—shows desire of DMRC et al. to have case in First Circuit.

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DX 643-3569—4th Circuit opinion in Cotwool suit—motion to transfer to Massachusetts.

Vol. 76—p. 14818-19 (Conrad)—Judge Ford's record was "frightening to a patent owner", etc.

Vol. 18—pp. 3796-97 (Leeson)—similar statement

DX 655]	
DX 656]	
DX 657	]	case set for trial; Leeson's response;
DX 658	]	mandamus petition, etc.
DX 659]	
DX 660]	

PX 1205—Whitin litigation docket sheets.

15.43 During the period from approximately June 1963 to January 1964 Leeson's ability to work out a settlement of the litigation was hindered as a result of ongoing internal disputes between Leeson and Permatwist (whose approval Leeson needed for any settlement) over the requirement that Leeson pay a "machine royalty" * to Permatwist on Leeson's false twist machines and other matters. Leeson had for some time tried to convince Permatwist to drop the machine royalty as a prelude to settlement. In November 1963, Leeson wrote to Warren Seem and expressed the view that Leeson's false twist patents were "unable to exclude competing [ARCT] machines", that, under the circumstances, it was unrealistic to expect competing machine manufacturers to pay any royalty, and that the only means by which Leeson and Permatwist could derive "extra profits" from the patents was by making arrangements with competing false twist machine manufacturers so that all false twist machines were subject to a production royalty. This dispute over machine royalties was finally resolved around the end of January 1964.

* That portion of the selling price to which Permatwist was entitled under its agreements with Leeson. See Finding 15.5, *supra*.

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Vol. 76—pp. 14821-27, 14888 (Conrad)—disputes between Leeson and Permatwist especially over "machine royalties"; resolved around end of January 1964.

Vol. 18—pp. 3771-72, 3795-96 (Leeson)—Permatwist had veto.

Vol. 76—pp. 14819-20 (Conrad)—Permatwist approval necessary for settlement on terms other than a standard manufacturer's license.

PX 372-593—machine royalties discussed at 6/63 Leeson-Permatwist meeting.

PX 442-662—Leeson to Permatwist 11/63 *re* machine royalties; patents unable to exclude competing machines.

15.44 On January 23, 1964, Armitage met with Leeson to discuss settlement. At this meeting Armitage told Leeson that he agreed in principle with the position that Leo Soep had taken concerning settlement—i.e., they would not pay Leeson any more than the cost of the suit which he [Soep] estimated to be \$50,000—although he thought Soep's figure was a little low. Armitage also said that his side did not believe in trying to break patents. As corroborated by a contemporaneous memorandum, Leeson attempted to induce defendants to settle by pointing out to Armitage:

"... that he should ask Soep to reconsider his mathematics—there is more at stake than the cost of a suit. If you win, you lose, and if you lose, you lose—because if the patent is broken, there will be no royalty."

Annotations:

PX 446-460 —Armitage diary *re* meeting.

PX 338-2092—Leeson memorandum *re* conversation with Bolton relating discussion with Armitage 1/24/64.

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15.45 This statement to the effect that “if you win, you lose, and if you lose, you lose” is a clear and concise expression of the mutual interdependency of the royalty programs established by Leeson and DMRC/Chavanoz. If Whitin, DMRC and Chavanoz had won the Whitin litigation, by having the Leeson patents held invalid, they would nevertheless have lost because, as a result, Leeson machines would be no longer subject to a production royalty and Whitin would be at a severe competitive disadvantage in selling machines subject to a royalty. The availability of royalty-free Leeson machines on the market would undermine the DMRC royalty program.

15.46 As noted in Finding 15.39, *supra*, Whitin, DMRC and Chavanoz recognized that the Leeson patents were sufficiently broad that there was little or no chance of having it determined that the ARCT machines did not infringe those patents. Thus, DMRC and Chavanoz recognized that in order to win the litigation it would be necessary to have the Leeson patents declared invalid and, as noted in Findings 15.17, 15.20, *supra*, DMRC, Chavanoz and Whitin were firmly convinced as to their ability to do so. Their opinion as to the invalidity of the Leeson patents was confirmed by tests which were conducted in January 1964 at Whitin.

Annotations:

PX 1045-3282—1/30/64 Evans report *re* test which “. . . would appear to invalidate the permatwist [sic] patents.”

PX 586-1687—Strub memo 3/69 reporting on a statement by Waters that Whitin, DMRC and Chavanoz “. . . did feel they had plenty of evidence to knock the [Leeson] patents out. . . .”

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15.47 The interdependency of royalty programs had long been recognized by DMRC, Chavanoz, ARCT-France and Whitin, as well as by Leeson. For example:

(a) The “kick-out” provision covering situations in which there was unlicensed competition was inserted in the 1954 and 1962 agreements between Chavanoz and ARCT-France;

(b) In the 1950's, Armitage, in letters to Soep, repeatedly expressed his concern over the serious problems which the royalty-free 550 machine posed for their contemplated licensing program, a problem which was also recognized at the time by Waters;

(c) Waters expressed his concern over royalty rate discrepancies in his 1961 “divide the pie” letter commenting on proposals for settlement;

(d) During the course of the litigation Waters predicted that the Leeson patents would be knocked out and that, as a result, the production royalty system on false twist machines would cease to exist in the United States;

(e) In 1963, when Waters learned that the Heberlein machine was being offered in the United States, he wrote to Armitage: “The important thing is that anyone buying the machine is licensed by Leeson” (and therefore required to pay production royalties);

(f) The escrow program itself is a recognition that the respective royalties could, at best, not be too far out of line;

(g) In 1959, Leeson had told Seragg, in attempting to get Seragg to sign a manufacturer's license, that

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if the Leeson patents were knocked out completely it would only set up a price fight on machinery sales. At about the same time, Leeson told Bolton that the "gravy" was in the royalties; and

(h) In August 1963 Leeson wrote: "everything to settle so that all competitors [charge] a royalty".

Annotations:

- (a) See Finding 14.13, *supra*.
- (b) See Findings 15.12, *supra*.
- (c) PX 418-444; see Findings 15.29-15.30, *supra*.
- (d) Vol. 15—pp. 3102-03, 3131-32 (Hamilton).
- (e) PX 1047-4003.
- (f) See Findings 15.34-15.35, *supra*.
- (g) See Findings 15.23, 15.40, *supra*.
- (h) PX 353-5258; see Finding 15.41, *supra*.

15.48 During 1963 and 1964 this "you win, you lose" concept was the "theme song" of the settlement negotiations. Leeson reminded Armitage of the interdependency of the royalty programs at their meeting in January 1964 and had explained it to Bolton after the Algonquin Club meeting in June 1963. The concept was also expressed by Armitage and Soep in meetings with Bolton and was regularly discussed at Whitin.

Annotations:

- Vol. 18—pp. 3681-84 (Bolton)—"theme song" of the settlement negotiations; expressed by Leeson, Soep and Armitage.
- PX 338-2092—Leeson memo *re* 1/23/64 "you win, you lose" statement to Armitage.
- Vol. 18—pp. 3674-75 (Bolton)—statements made by Leeson after Algonquin Club meeting.
- Vol. 80—pp. 15544-45 (Waters)—interdependency problem was regularly discussed at Whitin.

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15.49 The importance which the interdependency of royalty programs played in the thinking of the defendants is underscored by the reaction of Armitage, Waters, Soep and Crouzet to the commencement of litigation challenging the validity of the Leeson patents in 1969. The threat of possible royalty-free machines if the Leeson patents were invalidated led Armitage to write to Roger Milliken: "... it would be very difficult to sell the machines on a royalty basis if machines for a very similar purpose were being sold by Leeson royalty-free." * Waters, Crouzet and Soep all made similar observations in recognition of the possible adverse consequences of the suit against Leeson. Their concern was summed up by Waters:

"Most everyone feels quite convinced that the Leeson license and royalty system will fail and this does mean as you mentioned in your letter 'the whole system of licenses in the United States is doomed to failure.'"

Since ARCT's position in the market in 1969-1970 was at least as strong as, if not stronger than, its market position in 1963-1964, the foregoing observations expressed in 1969-1970 are clearly relevant to show interdependency as of 1963-1964.

Annotations:

- PX 459-682—Armitage to Milliken 11/69.
- Vol. 80—p. 15673 (Waters)—very much concerned in 1969 that ARCT would be only licensed machine in U.S.
- Vol. 18—p. 3377 (Waters)—sales would have been "far more difficult" if competitors selling royalty free.

* Armitage made this observation after meeting with Petry, Conrad and Soep in October 1969 to discuss the impact of the suit against Leeson on the DMRC licensing program.

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Vol. 39—p. 7824-25 (Crouzet) } —concern of Crouzet
 PX 460-837 } and Waters.
 PX 461-5263 }
 DX 789 }
 DX 815 }

PX 1201 } —October 1969 meeting—
 PX 1202 } Conrad, Soep, Petry
 PX 1203 } and Armitage.
 Vol. 76—pp. 14873-74 }

PX 462-5264—Waters to Crouzet 7/70: quoted in text.

PX 535-742 —Soep to Armitage 12/69: quoted in text.

Vol. 82—pp. 15972-74 (Waters)—market for ARCT machines
 in 1963-1964 not stronger than in 1969-1970.

15.50 The interdependency of the royalty programs is also demonstrated by the difficulties encountered when ARCT machines were sold in Mexico subject to a production royalty at a time when other false twist machines were sold royalty free. ARCT could not compete. As a result, DMRC dropped its royalty-bearing licensing program in Mexico in exchange for the payment by ARCT-France of a small percentage of the purchase price of machines sold in Mexico. ARCT-France's sales in Mexico showed a tremendous spurt after production royalties were eliminated.

Annotations:

PX 453-3461
 PX 454-128
 PX 455-3348

15.51 During the period 1963-1964, the "you win, you lose" concept was particularly compelling for DMRC, Chavanoz and Whitin:

(a) While they were confident of their ability to invalidate the Leeson patents, they were quite pessimistic as to their ability to prevail on the infringement issues; they

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felt that the broad Leeson claims would probably be held to cover the ARCT machines. As a result, their only hope of "victory" was on the issue of validity;

(b) They knew that, if the Leeson patents were invalidated, the Leeson machines could not be brought under the DMRC licensing program because those machines were not covered by Chavanoz' United States patents. Chavanoz' United States patents were not in issue in the litigation and were never judicially asserted against Leeson or any of its machines; and

(c) They also realized that if Leeson somehow prevailed in the litigation, the industry would not support a double royalty on ARCT machines (one to Leeson and one to DMRC) while only a single royalty was due on the use of Leeson machines. As conceded by counsel for DMRC and Chavanoz in closing, the economic impact on defendants of a double royalty on ARCT machines as against a single royalty on Leeson machines is the same as if the Leeson machines were sold royalty-free and defendants were attempting to sell ARCT machines and collect a single full royalty.

Annotations:

(a) See Findings 15.17, 15.20, 15.39, *supra*.

(b) See Finding 15.14, *supra*.

(c) See Finding 15.34, *supra*.

PX 459-682 — Armitage to Milliken 11/69: difficult to sell on royalty basis if similar machines are royalty free.

Vol. 67—p. 12938-39 (W. Smith)—Armitage statements that ARCT machines could be sold with royalty even if Leeson's were royalty free upset Waters, who had a contrary view.

Vol. 88—p. 16880 (concession in closing argument).

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15.52 After meeting with Leeson, Armitage left Providence on the afternoon of January 23, 1964, and returned to Spartanburg where he reported to Roger Milliken and Leo Soep on his discussion with Leeson. Within a few days Leeson had a discussion with Milliken and another one with Armitage. Milliken reiterated Deering Milliken's desire to uphold patents and Armitage again informed Leeson that a standard manufacturer's license was unacceptable. He told Leeson that whether Leeson kept \$.04 or \$.03, DMRC and Chavanoz would not be getting enough; that Soep still insisted on a "cut-off" on any payments to Leeson. Leeson and Milliken again met in February 1964.

Annotations:

PX 446-460 —Armitage diary entries *re* discussions with Milliken and Soep

PX 338-2092—(2nd memo) Leeson memo 1/29/64 *re* discussions with Milliken and Armitage.

PX 367-579 } Davis diary entries *re* Leeson-
PX 368-580 } Milliken meeting(s).

Vol. 18—p. 3834 (Leeson) } Leeson-Milliken
Vol. 76—pp. 14929-31 (Conrad) } meeting(s).

15.53 On March 3, 1964, Armitage mailed Leeson a draft of a cross license proposal to settle the litigation. This draft was based upon Armitage's understanding of the conversations between Milliken and Leeson.

Annotations:

PX 220-583—Armitage to Leeson 3/3/64.

PX 369-582—Leeson to Davis memo 3/3/64 *re* conversation with Armitage.

15.55 At least by March 18, 1964, DMRC and Leeson had reached agreement on the general terms for settlement

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of the United States litigation. On or about March 20, 1964, Davis mailed Armitage a draft settlement agreement.* The draft contained mutual covenants not to sue each other's licensees and provided for the payment by DMRC to Leeson of \$150,000 out of future royalties collected by DMRC from ARCT machine users. This figure was arrived at after Armitage gave Leeson an estimate of \$400,000 as DMRC's projected royalty income for the succeeding twelve-month period.

Annotations:

PX 448-462 —Armitage to Soep 3/18/64: "Since we are already in agreement in principle. . ."

PX 221-587A—Draft agreement.

PX 458-676 —Armitage to Soep 3/28/64 to the effect that royalty estimate had been given to Leeson.

Vol. 76—pp. 14921-22 (Conrad)—DMRC gave royalty projections at negotiations.

Vol. 19—p. 3943 (Davis).

15.56 Paragraph 7 of the draft agreement, which set forth the amount of the payment to be made by DMRC to Leeson and the method of payment, contained the following sentence:

"DMRC agrees that if it shall reduce the rate of royalties payable by any of its said licensees, or shall grant any new license at a rate of royalty less than it is currently charging on new licenses, it will nevertheless compute the payment to be made to Leeson as if the royalties received from its license had been

* The basic terms of the draft were carried forward and incorporated in the final settlement agreement dated as of March 31, 1964, See Findings 15.60-15.61, *infra*.

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computed and paid at the rate of royalties presently being charged."

Annotations:

PX 221-587A, ¶ 7

15.57 On March 24, 1964, Armitage and Davis discussed the draft agreement in a telephone call that was recorded by Davis. With respect to paragraph 7 of the draft, they stated:

"Armitage: But the difficulty I have with paragraph 7 involves only the last sentence which is that we agreed that if we reduce the rate of royalties, now, we certainly as you know the royalties cannot be reduced unless DMRC agrees to the reduction. Our only income is from royalties.

Davis: Yes.

Armitage: We don't get any income on machines. We don't get anything from the sale of the machines. We only get on the royalties. It is our interest to get the royalty as high as possible consistent with getting any royalty at all. If you reduce royalties we have to reduce royalties, I assume.

Davis: Sure.

Armitage: In effect that if the rate of royalties is reduced we would have to pay a higher percentage and if you recall one of the points I made most strongly about this was that you could get \$150,000 provided that we got \$1,500,000 but we in toto get less than that then you will get less in toto than \$150,000 but there is no reason for us to reduce royalties unless you force us to do so.

Davis: Yes.

Armitage: Yes.

Davis: Yes.

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Armitage: And of course, I'd hate to put in anything here that looks like a penalty against reducing royalty rates because I have in mind this antitrust thing.

Davis: Yes.

Armitage: Yes. So if you will raise this point.

Davis: Will do. We'll bring up all of these points."

Annotations:

PX 222-588—transcript of conversation.

Vol. 19—pp. 3944-47 (Davis).

15.58 Realizing the antitrust problem which such a penalty provision would involve, the parties deleted that portion of paragraph 7 of the draft agreement quoted above. The conversation itself, however, is another communication among competitors as to the mutual interdependence of their licensing programs and identifies future actions to be taken by both sides in order to achieve a shared objective:

(a) that ARCT and Leesona false twist machines would continue to be sold subject to a production royalty;* and

(b) that neither side would have any incentive to reduce its existing royalty rate unless the other forced it to do so.

Annotations:

PX 222-588—Transcript of conversation.

PX 535-742—Soep 12/69: sale of non-ARCT false twist machines to non-licensees constitutes "divergency from the initial principle that equipment should only be delivered to licensees."

* Both Armitage and Leeson had recognized that the production royalty was an element of the price of false twist machinery. See Finding 14.60, *supra*.

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PX 223-463—1964 Agreements which extended protection from suit only to licensees (§ 5) and which provide for payment to Leeson and of DMRC production royalties.

Vol. 18—p. 3813 (Leeson)—understood that after settlement DMRC royalty would be 3½%.

Vol. 26—p. 5462 (de Moncuit): effect of 1964 agreements was to permit collection of production royalties by Leeson and by DMRC-Chavanoz without any interference from the other.

15.59 Although desiring to avoid the appearance of an antitrust violation, Armitage's cavalier attitude toward the antitrust laws is revealed in a letter to Soep dated August 19, 1963:

"... it is a fact of life here that no one imputes any dishonesty to a corporation for breaking the anti-trust laws. And the business community does not attach obloquy to anyone who seeks to improve his own business situation by establishing a monopoly."

Annotations:

PX 435-633A

15.60 As of March 31, 1964 DMRC, Chavanoz, ARCT-France, Whitin and Leeson entered into an agreement to settle all existing United States litigation and "to avoid the possibility of further disputes or litigation." This agreement is premised upon the recited fact that Leeson has alleged that ARCT false twist machines infringe certain specified patents which it owns and that Chavanoz has alleged that Leeson false twist machines infringe certain of its patents.* The agreement then provides for an ex-

* In fact, Chavanoz' United States patents were not at issue in either the Whitin litigation or the Cotwool litigation, and had never been formally asserted against Leeson. (See Findings 15.14, 15.51, *supra*; DX 742-4008—Armitage 6/63: only Leeson patents are in issue; Chavanoz patents have never been subject of attack). In addition, certain Leeson patents listed in the agreements were also not in issue in any litigation. (Vol. 21—pp. 4339-43 (Armitage)).

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change of mutual covenants not to sue—(i) under specified existing patents with respect to both presently existing and future machines and (ii) under specified existing patents as well as future patents with respect to presently existing machines.*

Annotations:

PX 223-463, Tab A—March 31, 1964 Agreement re United States litigation (final "whereas" clause; §§ 1-4).

15.61 The agreements themselves constituted specific action which both sides had identified in communications as necessary to attain the common objective of carrying out production royalty programs which otherwise would have been destroyed. The nature of the agreement as concerted action to that end is further demonstrated by specific provisions of the agreement:

- (a) The agreement provided that DMRC would pay \$150,000 to Leeson out of DMRC's royalty income in accordance with a specified formula. DMRC, therefore, paid only if it continued to collect;

* There were actually four separate agreements. In addition to the one settling United States false twist litigation:

- (a) DMRC and Leeson signed an agreement relating to edge-crimping (PX 223-463, Tab B);
- (b) Leeson, Chavanoz and ARCT-France signed an agreement settling litigation in France and elsewhere—i.e., other than United States, Mexico, Canada and Great Britain (PX 223-463, Tab C). Armitage was not at all concerned with this litigation (Vol. 21—p. 4328); and
- (c) All five parties agreed to extend the United States agreement to Canada and Mexico (PX 223-463, Tab D).

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(b) The mutual covenants not to sue did not extend to all customers of the other but only to licensees. Since covenants not to sue are the equivalent of cross-licenses, as long as a throwster remained a licensee of either DMRC or Leeson, he was in effect licensed by the other; if he was not licensed by either, he was subject to suit by both.

[Material Not Adopted.]

Annotations:

PX 223-463, Tab A—¶ 6 contains the \$150,000 figure and payment formula.

PX 223-463, Tab A—¶ 5 contains the limitation to licensees.

PX 412-164—Petty letter in 1959: "... in return Leeson gave freedom from suit under its patents to our licensees in their use of the ARCT equipment *for so long as they remain our licensees.*" (emphasis added).

Vol. 76—pp. 14841-42 (Conrad)—covenants limited to licensees.

PX 222-588—in the transcribed telephone conversation with Davis, Armitage had stated "... if they are not licensees we are not interested in what you do to them and you're probably not interested in what we do to them so ..."

15.62 Under all of the evidence—the recognition of the mutual interdependency of the respective royalty programs and the perpetuation of those programs as a common objective, the communications as to that interdependency and objective, the taking of joint action (i.e., the 1964 settlements) which was identified by the competitors in communications as necessary to the attainment of their common objective, and the inclusion of specific terms in the March 1964 agreement which had the inherent effect of maintaining those royalty programs—defendants and Leeson have

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combined and are deemed to have agreed that each side would continue to charge a production royalty from the throwsters in order to obtain either Leeson or ARCT machines. Furthermore, by reason of the repeated communications among the parties on royalty amounts, the raising of the DMRC royalties to parallel Leeson's at 70 denier in the context of settlement negotiations, the understanding reached by Davis and Armitage in negotiating the 1964 settlement that neither side would have any incentive to reduce its existing rates unless the other side forced it to do so, and the ultimate execution of a settlement containing terms which naturally tended to support and stabilize the royalties, defendants and Leeson are deemed to have agreed to stabilize their respective royalty rates at or about the existing levels—i.e., \$.06 per pound on 70 denier and on other deniers consistent with that rate on 70 denier and the schedules then in effect.*

15.63 This sum of \$150,000 was, in fact, paid by DMRC to Leeson. The last payment was made on January 30, 1967.

The reciprocal covenants not to sue licensees had the effect of combining the power of the patents of both sides. (See e.g., Findings 15.70-15.72, *infra*.)

Annotations:

Vol. 47—pp. 9453-55—stipulation that the \$150,000 was in fact paid.

PX 1280-3518] *re* final payments.
PX 1281-3519]

* The DMRC royalty rate of 3½% applied to all yarns and deniers; the Leeson rate was a fixed amount per denier (e.g. PX 617-5287) but royalties on deniers other than 70 denier were required, by the terms of its 1958 contract with Permatwist, to be in "reasonable proportion" to the \$.06 on 70 denier (PX 356-480).

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15.64 As of March 31, 1964, Leeson and ARCT were the only reliable suppliers of false twist machinery in the United States; together they accounted for virtually 100% of the market.

Annotations:

Vol. 13—pp. 2799-2801 (Waters)

Vol. 14—pp. 2891; 2921; 2928 (Waters)

Vol. 14—p. 2832 (Foil)

Vol. 15—pp. 3061-62; 3086-87 (Hamilton)

Vol. 17—p. 3613-14 (Hamilton)

Vol. 18—pp. 3801-02 (Leeson)

Vol. 80—pp. 15651-52 (Waters)

PX 1056—Waters 2/64: Leeson has been our only competitor.

15.65 The 1964 agreement was in settlement of a patent dispute between competitors who, between them, completely dominated the market in false twist machines and licensing. The dominant purpose, reflected both in the statements of the participants and in the terms of the agreement itself, was anticompetitive—that purpose was to preserve and enhance royalty programs which a trial threatened to destroy, even though the Chavanoz patents were not in issue, and to unite the power of the patents to increase pressure against reluctant potential licensees and competing manufacturers who might otherwise have destroyed the programs by offering royalty-free machines.

No other credible reason for the settlement has been advanced. Specifically:

(a) There are no contemporaneous documents which support concern for sales of ARCT machines as a basis for the settlement, and such concern could not

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have been a motivating factor in view of the overwhelming evidence that ARCT machine sales were booming (Finding 15.37, *supra*);

(b) There are no contemporaneous documents which suggest that uncertainty over the exercise of its manufacturing option by Whitin (the only party who *could* have been influenced thereby) was a significant factor in settling; the documentary record refutes the existence of any such concern; and even after the settlement the option was never exercised;

(c) The only indication in any document that defendants were influenced to settle by the outcome of the litigation in Canada between Leeson and Scragg was branded an after-the-fact construct at the time, and the existence of such a motivation is inconsistent with the chronology of the settlement and is refuted by the fact that it was Leeson rather than defendants who “gave in” most in the final settlement (Finding 15.68, *infra*);

(d) Although the outcome of litigation always has elements of uncertainty, there are no contemporaneous documents which suggest that such uncertainty was a significant consideration to defendants, and the actual communications of the parties at the eleventh hour focused solely upon business considerations (“if you win, you lose”), and renders vanishingly small any motivation based upon a possible sustaining of the patents*, which defendants had long been confident were

* With respect to the other litigation which Leeson had brought against Madison, Smith, Gibbs and Southern Silk and then settled (See Findings 15.22, 15.24, *supra*), defendants have offered on testimony by Armitage that he was at all influenced by these settlements.

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invalid, before a court which was recognized as notoriously unfavorable to patentees.

*Annotations:**Whitin's Manufacturing Option*

PX 1056] Waters' proposal in 2/64 re exercise of
 PX 1224] option and responses thereto make no
 PX 1225] mention of litigation as a consideration.

Vol. 67—pp. 12924-25, 12962, 12971, 12997 (W. Smith)—option never exercised even after settlement.

15.66 The interdependence of the respective royalty programs had been the "theme song" of the settlement negotiations. As Leeson said to Armitage and Bolton, "If you win, you lose, and if you lose, you lose—because if the patent is broken, there will be no royalty." At the crucial late stages of the negotiations, it was the "you win—you lose" theme song which was urged as the driving reason for a settlement.

Annotations:

Vol. 18—p. 3681-84 (Bolton)—"theme song".

PX 338-2092—Leeson's "you win—you lose" memo.

15.67 The expressed objectives of the parties in settling were in accord with the "theme song" of the negotiations: to maintain the interdependent royalty programs:

(a) According to Leeson, Leeson's objective in reaching an accord with Whitin, DMRC and Chavanoz was to ensure that all of its competitors in the sale and licensing of false twist machines would charge a production royalty;

(b) Norman Armitage has admitted that a main factor in settling, even though the Chavanoz patents were

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not in issue, was DMRC's desire to "preserve and enhance" its royalty income; and

(c) As for Whitin, the "if you win, you lose" concept was regularly discussed, whether or not in those exact terms, and its realization that royalty-free machines would have a serious effect on ARCT sales was a dominant factor in settling. Bob Waters, in fact, aptly summarized the purpose of the settlement in a statement to one of the throwsters:

"They [Whitin, DMRC and Chavanoz] did feel they had plenty of evidence to knock the [Leesona] patents out but in this case there would have been no royalty collected by Leesona which would have made it all the harder for ARCT to collect *any* royalty."

Significantly, in several days of testimony Waters made no attempt to disavow or explain away this pre-litigation explanation of the underlying reason for the settlement.

Annotations:

- (a) PX 353-5258—Leeson's notes: "everything to settle. . . ."
 (b) Vol. 21—p. 4371 (Armitage)—"preserve and enhance" royalty income.

Vol. 20—p. 4151-52 (Armitage)] similar testimony re preservation of royalty structure being a reason for settling.
Vol. 78—p. 15188, 15190 (Armitage)	

- (c) Vol. 80—pp. 15544-45 (Waters)—regularly discussed at Whitin.

Vol. 14—pp. 2929-30 (Waters)—serious effect on ARCT sales if Leesona royalty-free; factor in settling.

PX 586-1687—Strub (Duplan) to Roberts memo
 3/69: statement of Waters quoted in text.

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15.68 On February 28, 1964, a Canadian trial court held that the Canadian counterparts of the Leeson false twist patents were valid and infringed by the use of Scragg false twist machines. DMRC and Chavanoz have asserted in this litigation that the Canadian decision was a major factor in persuading their side to settle the litigation with Leeson. This contention is completely refuted by the record:

(a) It is clear that, under the terms of the settlement, it was Leeson, rather than defendants and Whitin, which backed off from its prior negotiating position and agreed to a much smaller share of the royalty pie—the production royalties extracted from United States throwsters—than it had previously insisted upon. Leeson abandoned its prior steadfast position that DMRC and Chavanoz enter into a standard manufacturer's license whereby royalties on the ARCT machines would have been paid to Leeson and shared on an on-going basis, two-thirds for Leeson, one-third for DMRC and Chavanoz. That position had always been firmly rejected by defendants and Whitin; they insisted on a larger share of the "royalty pie". The settlement gave DMRC and Chavanoz all of the royalties collected on ARCT machines less a ten percent share to Leeson, up to a maximum of \$150,000, a figure which Leeson himself has emphatically characterized as an exceedingly small amount.* The terms of the settlement do not, in fact, materially differ from what Soep had proposed to Davis in May 1963 and which Ward Smith had proposed at the Algonquin Club in June 1963;

* This amount is not out of line with the position of Armitage and Soep in January, 1964, that they should not pay more than the estimated cost of continuing with the litigation and that there be a "cut-off" to the royalties. PX 338-2092.

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(b) Final settlement negotiations between the parties were already well under way as of February 28, 1964. By March 3, 1964, for example, Armitage already had in the mail to Leeson a draft of a cross-license proposal which was based on conversations between Milliken and Leeson. These conversations had preceded the Canadian decision;

(c) Defendants themselves offered a document from the files of Leeson which contains minutes of a Leeson-Permatwist meeting in March 1964. The document takes up, in order, first the Canadian decision and then the Whitin litigation. In the opening sentence of the latter section, Leeson is reported to have stated that the litigation can "only be settled on what we considered our minimum terms";

(d) Although the joint press release issued after the settlement states that the settlement followed "close on the heels" of the Canadian decision, an earlier draft of the release containing Jack Bolton's interlineated comments, has a question mark next to the statement. It was placed there by Bolton because he disagreed with the sequence and with the inference that the Canadian decision had prompted the settlement;

(e) Ward Smith did not mention the Canadian decision in his testimony concerning Whitin's reasons for entering into the settlement and, in fact, could not recall any event in early 1964 which altered the defendants' attitude toward settlement; and

(f) Defendants have not offered a single document from their own files which is dated prior to March 31,

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1964, and which makes reference to the Canadian decision.*

Annotations:

DX 662—Canadian decision in *Leesona v. Scragg*

(a) PX 335-5253—Leesona offered manufacturer's license in 1961 settlement negotiations.

PX 363-500A]	same offer in Davis-Soep meeting in Paris in May 1963.
PX 420-451		

PX 366-510]	same offer at Algonquin Club meeting in 6/63.
Vol. 19—p. 3930-31 (Davis)		
Vol. 18—p. 3671 (Bolton)		
Vol. 76—pp. 14881, 14885-86 (Conrad)		
PX 443-3573		

PX 338-2092—Leesona still proposing same arrangement in January 1964.

Vol. 18—pp. 3837-39 (Leeson)]	Leesona firm in insisting on manufacturer's license as a basis for settlement.
Vol. 19—pp. 3933-34 (Davis)		
Vol. 20—p. 4175 (Armitage)		

Vol. 21—p. 4386 (Armitage)]	consistent rejection of the offer of a manufacturer's license.
PX 338-2092		
Vol. 18—pp. 3837-38 (Leeson)		

PX 443-3573—Brumbaugh to Conrad 10/63: a standard Leesona manufacturer's license was "... not a possible way of settling this controversy."

PX 363-500A, ¶ 2(b) and (c)—Soep proposals at the May 1963 meeting with Davis which reflected an "agreement in principle" to share royalties.

PX 366-510—Ward Smith proposal at Algonquin Club.

* In two separate letters, in 1963 and in 1965, Armitage wrote throwsters minimizing the effects of Canadian litigation in the United States. In the latter he took the position that the Canadian decision did "not at all" influence the situation in the United States. PX 457-673; PX 456-674.

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PX 223-463, Tab A, ¶ 6—royalty provision in settlement agreement.

Vol. 18—pp. 3799-800 (Leeson)—figure was a "God damn small amount."

(b) See Findings 15.52-15.53, *supra*.

PX 220-583—Armitage to Leeson 3/3/64.

(c) DX 665

(d) PX 343-591—Press release.

Vol. 18—p. 3685-86]	Bolton's comments <i>re</i> press release.
PX 339-5256		
PX 339A-5257		

(e) Vol. 67—p. 13009 (W. Smith).

15.69 The actual terms of the 1964 agreement were kept secret. The parties agreed that the only information concerning the settlement that would be disclosed to the public was that contained in a joint press release. A "party line" was formulated to answer inquiries from customers and licensees of the respective parties to the agreements and it was agreed that nothing more than the party line would be disclosed. The press release was dated April 13, 1964, and was issued in the names of Leesona, Whitin, DMRC, Chavanoz, and ARCT-France. The key paragraph of the release stated:

"The legal actions which have been settled involved suits and countersuits between Leesona on one hand and DMRC, Whitin, Chavanoz and ARCT on the other. The settlement followed close on the heels of the February 28, 1964, decision of the Exchequer Court in Ottawa which upheld the validity of Leesona's stretch yarn patents in Canada. The ARCT machines will continue to be sold by Whitin Machine Works to licensees of DMRC. Terms of the settle-

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ment include provision for participation by Leesona in royalties received by DMRC."

Annotations:

PX 343-591—Press Release.

PX 912-126—Armitage memo 4/17/64: terms of settlement "extremely confidential"; unauthorized persons in accounting department should not know.

Vol. 18—p. 3812 (Leeson)	} terms of settlement
Vol. 19—p. 3957 (Davis)	
Vol. 46—pp. 9237-39 (Petry)	

Vol. 14—p. 2915 (Waters): not advised of details of agreement.

DX 815—Waters concerned in 1969 that agreement would be subpoenaed.

Vol. 15—p. 3131 (Hamilton)—never able to find out details of settlement.

PX 340-3575	} "party line"—"no further comment".
PX 341-3576	
PX 1058	

15.70 This precise wording was carefully chosen for the purpose of "indicating to the world at large that the Leesona and Chavanoz patents are strong and that competition against them from any outside source would be difficult at best".

Annotations:

PX 344-730—Bolton to Armitage 4/8/64

Vol. 18—pp. 3698-99 (Bolton)—"Dr. Armitage was very strong in sticking with his position that both patents would appear strong in the eyes of the buying public".

15.71 Consistent with this purpose, on April 20, 1964, Armitage wrote to Spinner, a Finnish manufacturer of false twist machines seeking a United States representa-

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tive, and explained that, as a result of the March 31, 1964 agreement, the validity of the Leesona patents was undisputed and "this would put a very considerable burden upon anyone attempting to introduce another false twist machine in the United States".*

Annotations:

PX 533-731

15.72 Defendants' commitment to combining their patent position with that of Leesona in order to preserve the parallel production royalty programs was reaffirmed after the 1964 agreements. For example:

(a) When Armitage was notified of Turbo Machine Company's plans to offer for sale on a royalty-free basis a limited purpose texturing machine of the false twist type, he recognized that "this development can be very harmful to our program". He therefore requested that a study be made to determine whether the Turbo machine infringed any of the Chavanoz patents. Armitage observed that there was a good chance that the Turbo machine infringed one or more of the Leesona patents and, if so, that he "should like to call this to Leesona's attention for whatever action they may feel advisable to take." His objective was to make sure that the Turbo machine would be subject to a production royalty. Shortly after ordering his investigation, Armitage met with Fred Tecce of Permatwist to discuss "new infringers of the Permatwist (Leesona) patents"; and

* Spinner later signed Leesona's standard manufacturer's license. See Finding 15.74, *infra*.

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(b) Both DMRC and Lex-Tex, which had acquired two of the Leeson patents that were the subject of the 1964 agreement (the '912 and '724 post-treating patents), as well as a third patent from an outside source (the '011 Scragg patent) which was not covered by the settlement, take the position, in attempting to license throwsters, that if a throwster signs a DMRC license, it will get a better deal from Lex-Tex (since, in effect, Lex-Tex would be licensing only the '011 Scragg patent to DMRC licensees). In other words, they urged unlicensed throwsters to sign a DMRC license in order to obtain freedom from the Leeson patents (as exploited by Lex-Tex).

Annotations:

(a) PX 463-694—Armitage memo 7/65 *re* Turbo.

PX 585-1602—Strub memo 9/20/65: statement by Sawyer of DMRC about not wanting Turbo in "uncontrolled production" (Vol. 79—p. 15410 (Strub)).

PX 534-691—Armitage diary entry *re* meeting with Tecce

(b) Vol. 84—pp. 16208-09 (Carr) } identification of the
Vol. 76—p. 14853 (Conrad) } Lex-Tex patents.

15.73 During the period following the 1964 agreements, market research personnel of DMI regularly exchanged confidential market information, such as actual total production figures from DMRC licensees, with their counterparts at Leeson; and

Annotations:

PX 1011-853

PX 1012-854—actual production totals from DMRC licensees.

PX 1013-855

PX 1014-856

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PX 1016-860

PX 1017-861—Leeson memo which lists figures for DMRC production which correspond to those in PX 1012-854.

Vol. 47—pp. 9360-91; 9400 (Trizzino).

Vol. 47—p. 9401 (Stark).

15.74 Defendants' commitment to combining their patent position with that of Leeson in order to preserve the production royalty programs also facilitated the perpetuation and expansion of the Leeson system of manufacturer's licenses, a system which the Fifth Circuit has ruled (affirming a summary judgment) is *per se* illegal.

At the time of the 1964 agreements, Leeson had entered into manufacturer's licenses with three competing manufacturers of false twist machinery or parts—Gibbs, Mechanical Specialty (Joe Smith), and Heberlein. The issuance of these licenses was made known to DMRC and Chavanoz by Leeson during the settlement negotiations, and the existence and terms of the standard arrangement were certainly well known to defendants since they were discussed time and again with Leeson. During the period 1964 to 1970, Leeson licensed ten additional competing manufacturers of false twist machines (including Spinner, the Finnish company to whom Armitage had emphasized the strength of the Leeson patents) under its standard manufacturer's license.

Annotations:

See Findings 15.23-15.24, *supra*.

PX 219-484—Leeson/Heberlein 4/1/62.

PX 1046-486—Leeson/Mechanical Specialty 4/20/63.

DX 650-4121—Leeson/Gibbs 4/20/63.

Vol. 19—pp. 3872-73 (Leeson)—defendants advised of existing manufacturer's licenses.

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Vol. 76—p. 14809 (Conrad)—certain these would have come up in his talks with Soep.

PX 1047-4003—Waters in 1963 re Heberlein: "The important thing is that anyone buying the machine is licensed by Leesona".

PX 360-491] Leesona manufacturer's
Vol. 19—pp. 3902-05 (Davis)] licenses as of 8/21/69

PX 374-487—Leesona/Scragg agreement 11/2/65.

Vol. 19—p. 3960-62 (Davis)—Scragg license.

Vol. 76—pp. 14812, 14919-21, 14959-60 (Conrad)—Scragg took license; prior to signing, Scragg collected no production royalty.

15.75 Despite the number of manufacturer's licenses executed between 1964 and 1970, virtually all of the false twist machines sold and in operation in the United States continued to be supplied either by Leesona or ARCT. While small numbers of other false twist machines did enter the United States market, they did so only pursuant to one of Leesona's manufacturer's licenses.* For example, when Duplan, one of the plaintiffs, sought to purchase false twist machinery in the mid 1960's, it investigated Heberlein and Klinger false twist machines. In order to obtain either of these machines, Duplan was advised that it would be necessary to execute a Leesona license agreement providing for the payment of production royalties. Duplan did in fact sign a Leesona license agreement in order to obtain a Klinger AM-1 machine.** It was common knowledge in the industry that all machines other than ARCT were sold under the Leesona license.*

* One exception was the Turbo machine which was not a true false twist machine (it had no spindle), but was a "limited" purpose machine good only for processing of very fine deniers. Vol. 27—pp. 5635-39 (Roberts).

** Davis informed Armitage of the signing of the Klinger agreement. (PX 373-598—Davis' diary 10/64).

*Adopted Findings—Horizontal Conspiracy**Annotations:*

See Finding 15.81, *infra re* domination of Leesona and ARCT.

Vol. 13—pp. 2802-03 (Waters))
Vol. 14—pp. 2876-77; 2918-19 (Waters)) accepted in the
industry that all non-ARCT machines sold under Leesona's
standard form of licensing.

Vol. 27—p. 5619 (Roberts))
Vol. 29—pp. 5885-87; 5918; 5925 (Roberts)) Klinger and
Heberlein machines—had to sign Leesona agreement to get
machines.

PX 617-5287—Duplan-Leesona license re Klinger machine.

15.76 As each false twist manufacturer was signed up by Leesona, another potential source of royalty-free machines, and thus another potential threat to the continued maintenance of parallel licensing programs by Leesona and DMRC, was removed. As Davis of Leesona wrote to Scragg in 1968 with respect to a new competitor, "... all of us will be better off if Berliner enters into this market as a licensee. ..." Berliner did in fact enter into a manufacturer's license with Leesona dated October 21, 1969.

Annotations:

PX 357-488

PX 358-489

Vol. 19—p. 3901 (Davis)

15.77 The evidence is clear that from 1964 until the commencement of this litigation in 1969, there were no high-speed, royalty-free false twist texturing machines available in the United States. All required the payment of a production royalty to either Leesona or DMRC on each pound of yarn processed. In 1969, every ARCT false twist machine in use in the United States was operated under the standard DMRC royalty agreement.

*Adopted Findings—Horizontal Conspiracy*Annotations:

Vol. 12—pp. 2433-35; 2457 (Ferenbach)] no royalty-free machines available.
Vol. 14—p. 2833 (Foil)	
Vol. 14—p. 2935 (Waters)	
Vol. 15—pp. 3132-34 (Hamilton)	
Vol. 20—pp. 4195; 4199 (Johnston)	
Vol. 25—pp. 5174-76 (Armitage)	
Vol. 27—p. 5619 (Roberts)	
Vol. 29—p. 5918 (Roberts)	
Vol. 46—p. 9225 (Lopatey)	
Vol. 79—pp. 15380-81 (Robbins)	
Vol. 25—p. 5220, 5276-77 (Armitage)—prior to 1969 every ARCT machine in the United States was under a license.	

15.78 In 1969, after the commencement of this litigation and the commencement of similar litigation against Leesona, several of Leesona's manufacturing licensees began selling to non-licensees, thus resulting in a breakdown of one of the objects of the 1964 agreement. In a statement which clearly recognized the mutual commitment to restrict sales of all false twist machines in the United States to throwsters who had signed a royalty-bearing use license, Soep characterized this development as a "divergency from the initial principle that equipment should only be delivered to licensees."

Annotations:

PX 535-742—Soep to Armitage 12/31/69.

15.79 As of 1964, when the agreements among the defendants and Leesona were reached, DMRC's and Leesona's respective royalties on 70 denier nylon were virtually identical (as they had been since DMRC raised its royalty to 3½% in June 1963) and at that time 70 denier nylon constituted as much as 80% of the market. From March, 1964,

Adopted Findings—Horizontal Conspiracy

until at least the commencement of this litigation, the Leesona royalty (\$.06) and the DMRC royalty (\$.5985) on 70 denier nylon yarn remained the same. During that period, the list price on which DMRC based its royalty for 70 denier nylon remained at \$1.70 to \$1.71 per pound.

Although 150 denier set polyester became an increasingly important yarn in the industry, this trend did not occur until towards the end of the 1960's and its popularity was in addition to, not at the expense of, the production of 70 denier nylon. When one fiber manufacturer sought to lower its artificial list price on 150 denier polyester to approximate the actual market price, it was pressured into rescinding its decision by DMI (See Finding 16.12, *infra*).

Annotations:

PX 434-677—Armitage letter 3/2/64: 70 denier nylon is 80% of market; DMRC royalty is the same as Leesona's on 70 denier.

Vol. 18—pp. 3790-92 (Leesona)] no change in Leesona royalty of \$.06 per pound on 70 denier.
Vol. 19—p. 3971 (Davis)	
Vol. 14—p. 2935] list price for 70 denier remained at \$1.70 or \$1.71; DMRC royalty = \$.05985.
Vol. 18—p. 3730 (Waters)	
DX 789	
DX 810-129	
DX 811-130	
DX 813-841	

Vol. 18—p. 3731-32 (Waters)—trend to heavier deniers was in addition to 70 denier.

See Finding 15.36, *supra* re 70 denier continuing to be reference point for royalty analysis.

PX 329-3556—DMI machine survey: "basically the same royalty schedules [are] used by all licensors".

Vol. 81—p. 15803 (Waters)—Armitage consistently opposed to any change in royalty rate.

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15.80 The relevant markets in this case consists of sale and licensing of machines (including processes and technology used thereon) for false twist texturing, of which the sale of machines and licensing of their use constitute identifiable relevant submarkets.

Annotations:

PX 316-3893

PX 317-3888

PX 318-3886

PX 1019-3883

PX 1018-858

DX 847-99

DX 848-100

Vol. 15—pp. 3013-15 (Hamilton)

Vol. 27—pp. 5556-79 (Roberts)

Vol. 7—pp. 1281-91 (Armitage)

15.81 Defendants and Leeson, which were virtually the only sources of false twist machines in the United States in 1964, retained their monopoly power. As of the end of 1969, a date approximating the commencement of this litigation, Leeson and ARCT false twist machines represented more than 90% of the false twist texturing capacity in the United States, exclusive of Leeson's manufacturing licensees. In terms of number of machines in place, ARCT and Leeson accounted for over 80% of the market, again excluding Leeson's manufacturer's licensees, with virtually all machines being licensed by DMRC or Leeson. ARCT itself eventually obtained a monopolistic market share of 85% of new false twist machine sales in the United States.

*Adopted Findings—Horizontal Conspiracy**Annotations:*

PX 316-3893	}	market reports
PX 317-3888		(figures as of
PX 318-3886		12/69).

PX 1018-858—DMI memo 1970: "ARCT and Leeson dominate machines in place accounting for approximately 85% of all false twist textured yarns".

See Finding 14.69, *supra* re ARCT eventually attaining an 85% share of sales.

15.82 The agreements and understandings reached by the defendants and Leeson in connection with the settlement of the Whittin litigation had the following effects on United States trade and commerce in the sale and licensing of false twist texturing machines:

(a) All false twist machines continued to be sold subject to a license agreement providing for the payment of production royalties at rates which tended to remain stable. It was well recognized in the industry that all machines were sold only under either a Leeson or a DMRC license. It was not until 1969, after the commencement of this litigation and the commencement of similar litigation against Leeson, when several of Leeson's manufacturing licensees and then ARCT, Inc. began selling to non-licensees, that the "whole system of licenses in the United States"—which was the objective and effect of the 1964 agreement—began to breakdown;"

(b) Defendants and Leeson maintained their monopoly position in the sale and licensing of false twist machines in the United States; and

(c) At the time this litigation commenced, all high speed false twist machines in use in the United States

Adopted Findings—Horizontal Conspiracy

were operated under a license from either Leeson or DMRC that provided for the payment of a production royalty on each pound of yarn processed on the machines. Thus, after 1964, each of the plaintiffs paid production royalties to DMRC and those plaintiffs that operated Leeson machines or machines of Leeson's manufacturer's licensees also paid production royalties to Leeson.

Annotations:

PX 462-5264—Waters to Crouzet 7/70: *re* "whole system of licenses in the United States".

Vol. 48—p. 9577—Topkis stipulation that all plaintiffs have paid royalties to DMRC.

e.g., Vol. 14—p. 2841 (Foil)	}	payment of royalties to Leeson.
Vol. 15—pp. 3112-13 (Hamilton)		
Vol. 27—pp. 5586-87; 5590 (Roberts)		
Vol. 45—p. 9010 (Reed)		

15.84 Although the combination among the defendants and Leeson was formed in 1964, it was a continuing combination and overt acts in furtherance of the combination occurred after 1964 and within the four-year period preceding the commencement of these actions. These overt acts include:

(a) continued maintenance by DMRC-Chavanoz and by Leeson of their respective licensing programs;

(b) perpetuation by defendants and by Leeson of arrangements to restrict sale and delivery so that all machines were operated under royalty-bearing license agreements;

(c) failure to disavow publicly the existence of arrangements to restrict sale and delivery which were instrumental to the continuation of the combination;

Adopted Findings—Horizontal Conspiracy

(d) explicit reaffirmation in 1968 of the preexisting restrictions as to machines sold in the United States (See Finding 14.27, *supra*);

(e) continued collection of production royalties from the plaintiffs by DMRC and by Leeson;

(f) licensing by Leeson of additional competing false twist machinery manufactured under its standard manufacturer's license; and

(g) payment by DMRC to Leeson of the specified portion of production royalties collected by DMRC pursuant to the 1964 agreement (See Finding 15.63, *infra*.)

15.85 Particularly in view of (a) uncertainties in 1964 and 1965 as to the future of the market for various types of false twist yarns, (b) the uncertainty of predicting at that time any plaintiff's success within that market, and (c) the enormous growth and change in character of false twist yarn consumption which occurred within the four years next preceding the filing of these suits, proof by any plaintiff *in futuro* prior to that four-year period of the amount of royalties that would have accrued on his production during that four-year period would have been speculative and essentially unprovable.

Annotations:

PX 1056—Waters report 2/64 (Market forecast on p. 2, ¶ 4 and pp. 5-6, ¶ 4).

PX 317-3888—10/70 Market Research Report.

PX 1062—DMRC royalty income by years.

Vol. 15—pp. 3004-07 (Hamilton)—extent of industry growth

Adopted Findings—Horizontal Conspiracy

15.54 There were negotiations between Whitin, DMRC, Chavanoz, and on the one side, and Leeson and Permatwist on the other, over the specific terms of an agreement throughout March and into April 1964. At a meeting covering March 11-13, 1964, Leeson and Permatwist agreed to seek a "world wide" settlement with Chavanoz. Leeson communicated this objective to Soep who was in complete agreement.

Annotations:

PX 109-834	}	—re final settlement negotiations in March 1964.
PX 448-462		
PX 447-461		
PX 449-466		
PX 450-803		
DX 665	}	
Vol. 76—pp. 14,894-95 (Conrad)		
DX 665]	re "world-wide" agreement between Leeson and Chavanoz.
PX 370-586		

*Adopted Findings—Horizontal Conspiracy***Chavanoz/DMRC/DMI Proposed Findings (Adopted):**

(1) By the late 1950's, Chavanoz and Leeson* each owned a number of patents, in both North America and Western Europe, on inventions relating to false twist texturing. (See ¶¶ 2-6, below.)

(a) Leeson

(2) Leeson obtained its first false twist patents from acquisition of three pending applications from Permatwist Company in 1954. Permatwist was a partnership of four individuals—Messrs. Seem, Stoddard, Tecce and Berger. Seem and Stoddard were the inventors named on the applications which Leeson acquired. These applications ripened into U. S. Patents Nos. 2,803,105, 2,803,108, and 2,803,109, issued on August 20, 1957. (Px 354-472; Px 32-473; Px 33-1928; Px 34-5119; 18 Tr. 3753-54 [Leeson].)

(3) By the beginning of 1955, Leeson had obtained patents in France (and elsewhere in Western Europe) for the inventions which were later protected in the United States by the '105, '108 and '109 patents. (Px 223-463 [see App. A to 3/31/64 agreement among Leeson, Chavanoz, and ARCT-France]; Dx 653 at pp. 1 and 2.)

(4) In the period 1954-64, Leeson obtained a number of additional yarn-texturing patents; by 1964 Leeson owned 15 to 20 patents in this field. (76 Tr. 14840 [Conrad].)

(b) Chavanoz

(5) Starting in early 1952, Chavanoz began seeking patent protection for inventions in the field of false twist tex-

* Until the late 1950's, Leeson was named Universal Winding Co. For simplicity, we shall use the name "Leeson" throughout these findings.

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turing. By 1957, Chavanoz—by then working on false twist in partnership with ARCT-France—had obtained five false twist patents in France and four in the United States. Applications for additional patents were pending in both countries, and elsewhere. (Px 5-788 [French Patents Nos. 1,054,338, 63,983, 66,140, and 1,126,065]; Px 558-794 [French Patent No. 67,751]; Px 4-153 [U.S. Patents Nos. 2,741,893, 2,761,272, 2,780,047, and 2,788,634]; applications for curved tube ['375], dielectric ['513] and infrared ['514]; Px 1-221 [Oct. 10, 1954 agreement between Chavanoz and ARCT]; Px 223-463 [see List B to 3/31/64 agreement among Leesona, Chavanoz and ARCT-France].)

(6) By mid-March of 1964, Chavanoz owned 12 United States patents relating to false twist, and additional applications were pending. (Px 4-153 [U.S. Patents Nos. 2,741,893, 2,761,272, 2,780,047, 2,788,634, 2,823,513, 2,823,514, 2,891,375, 2,944,319, 3,012,397, 3,117,361, 3,117,410, and 3,123,973; pending applications: 3,137,119, 3,165,881, and 3,166,881].)

(7) In the Fall of 1954, Leesona began marketing false twist equipment in the United States; except for some early sales of Flufon attachments by Permatwist, it was the first company to do so. The equipment was of two kinds: the Flufon attachments through which a standard upwister could be converted into a false twist machine, and the Leesona Model 550 Superloft false twist machine. (18 Tr. 3748 [Leeson]; 19 Tr. 3879-87 [Davis]; 83 Tr. 16058-59 [Dillon].)

(8) Leesona asked purchasers of this equipment to execute licenses under its then-pending false twist patent applications. For the Flufon equipment, the license provided for a royalty based upon yarn produced; a license was

Adopted Findings—Horizontal Conspiracy

required for the Superloft machine, but no production royalty was called for. (19 Tr. 3887-89 [Davis]; 18 Tr. 3759 [Leeson]; Px 1232; Px 355-477.)

(9) Through the 1950's, despite the existence of competing foreign equipment, Leesona was essentially the only seller of false twist machines in the United States. This remained true despite efforts by Burlington, the largest American textile company, to persuade foreign machinery manufacturers to introduce their equipment into the United States. The foreign manufacturers feared patent infringement litigation by Leesona, and were unwilling to indemnify potential United States customers. Thus, when Leesona sued Southern Silk Mills for patent infringement (see ¶ 11 below), Scragg removed its false twist machines from the United States and did not resume selling here until it had taken a license from Leesona. (17 Tr. 3449-52 [Hamilton]; 78 Tr. 15331-32 [Ressel]; 27 Tr. 5616 [Roberts]; 19 Tr. 3960-62 [Davis]; Px 374-487; 18 Tr. 3783-84 [Leeson]; Dx 206-2054.)

(10) Around 1957, Leesona became aware of the manufacture, sale and use of false twist machines in the United States by companies which did not have licenses under the Leesona patents. Prompted in part by complaints from its licensees, Leesona instituted patent infringement litigation. (76 Tr. 14795 and 14798-800 [Conrad].)

(11) The first suit was commenced in 1957 against Southern Silk Mills, a Tennessee throwster, which had built its own false twist equipment. In defense, Southern Silk asserted that the Leesona '105, '108 and '109 patents were invalid and not infringed. (76 Tr. 14800-04 [Conrad]; Dx 732.)

Adopted Findings—Horizontal Conspiracy

(12) In 1958, Leeson brought infringement actions against two manufacturers of false twist equipment—Mechanical Specialty Company and Gibbs Machine Company. In the *Gibbs* case, Leeson alleged that Gibbs' false twist machines infringed the Leeson '105, '108 and '109 patents. Gibbs denied infringement and contended that the three patents were invalid. In the *Mechanical Specialty* case, Leeson complained of contributory infringement of its '105 and '086 (spindle) patents based upon the defendant's manufacture and sale to Leeson licensees of a high-speed spindle ("the Smith spindle") designed to replace the slower spindle supplied as regular equipment on the Superloft machine. *Mechanical Specialty* asserted in defense that the '105 and '086 patents were invalid. (Dx 733 at pp. 2-13; 76 Tr. 14804-09 [Conrad].)

(13) Later in 1958, Leeson sued Madison Throwing Company—one of the nation's largest throwsters—and two affiliated companies. Leeson claimed that Madison, by modifying its Superloft machines to incorporate the Smith spindle and by making other changes, had reconstructed the machines and thereby infringed Leeson's '105 patent. Leeson contended also that Madison's unlicensed use of the Smith spindle infringed the Leeson '086 patent. Madison denied that it infringed either the '105 or the '086 patent; Madison claimed also that the '086 patent was invalid, and that both patents were unenforceable on the ground of misuse. (Dx 733 at pp. 5-7 and 13-17.)

(14) The *Gibbs*, *Mechanical Specialty* and *Madison* cases were all brought in the United States District Court for the Middle District of North Carolina, and were consolidated for trial. All of the defendants were represented by the same counsel—David Rabin, Esq.—and he was assisted by Thornton H. Brooks, Esq. who was of counsel to defendant

Adopted Findings—Horizontal Conspiracy

Madison and also represented Burlington.* In the consolidated trial, defendants intended to call Dr. Stanley Backer (who testified for plaintiffs here) as an expert witness to testify about the alleged invalidity of Leeson's '105, '108, '109 and '086 patents. (Dx 733 at pp. 1, 73, and final page [unnumbered]; 76 Tr. 14804-09 and 14881-82 [Conrad].)

(15) Also in 1958, Leeson became involved in litigation in Ottawa, Canada, initiated by Ernest Scragg & Sons, Ltd., a British manufacturer of false twist machines. Scragg sought a declaratory judgment that the Canadian counterparts to Leeson's United States false twist patents were invalid and not infringed by the Scragg machines. (Dx 662-4125; 76 Tr. 14809-12 [Conrad].)

(16) In 1956, Chavanoz—acting through its patent agent ("conseil en brevets"), Leo Soep—began asserting that Leeson false twist equipment infringed Chavanoz's French and American patents. Soep informed DMRC of Chavanoz's position in February 1956 and communicated this claim directly to Leeson in March. Leeson denied infringement, but expressed interest in taking a license under a Chavanoz contact heater patent in Europe. (Dx 174-310; Dx 134-493; 18 Tr. 3767-68 [Leeson]; Px 345-647; Px 346-648; Px 347-316; Px 351-649; 25 Tr. 5280 [Armitage].)

(17) In February 1957, Chavanoz sued Leeson and one of its customers in France, claiming that the sale and use of Leeson Superloft machines infringed three Chavanoz French heater patents. The patents in suit were the counterparts to the U.S. '893 ("bathtub"), '272 ("curved plate"), and '047 ("U-shaped" or "umbrella rib") patents. (Dx 654; 26 Tr. 5400-01 [de Moncuit]; 18 Tr. 3759-60 [Leeson].)

* In 1958, Burlington owned 50% of Madison; by the spring of 1960, Burlington had a majority interest. (13 Tr. 2653 [Norman].)

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(18) Leeson took Chavanoz's infringement claims seriously. In France, in addition to defending the Chavanoz litigation, Leeson modified the heater on its Superloft machine by incorporating guides which would prevent the yarn from running in contact with the heater surface. This was done in order to convert the heater into a "radiant" heater, to avoid infringement of Chavanoz's curved plate contact heater patent. In the United States, Leeson and Permatwist studied Chavanoz's claims and determined to seek the opinion of a "completely neutral" outside attorney. Although Chavanoz did not bring infringement litigation against Leeson in the United States, Soep from time to time reiterated to Leeson his claim that certain Chavanoz U.S. patents applied to the Leeson machines. (18 Tr. 3767-68 and 3827-28 [Leeson]; Dx 134-493; Dx 654 [at p. 9 of translation]; 19 Tr. 3914-15 [Davis]; Px 349-495; 76 Tr. 14835-36 [Conrad]; 25 Tr. 5280 [Armitage].)

(19) In July 1959—virtually coincidental with the first sale of ARCT FT-1 machines in the United States—Leeson sued ARCT-France and one of its customers in France, claiming that the sale of FT-1 machines infringed the French counterparts to the U.S. '105, '108 and '109 patents. Chavanoz, pursuant to its contract with ARCT-France, assisted in defending this action, and in 1962 became a party to the litigation by intervention. (Dx 653; Dx 51-10; 18 Tr. 3760 [Leeson]; 39 Tr. 7820 [Crouzet]; Dx 707-22.)

(20) The ARCT machine was first shown to the trade in the United States at the Knitting Arts Exhibition in Atlantic City, N.J., in May of 1959. In the ensuing months, Whitin—ARCT-France's exclusive licensee to sell the equipment in the United States—sold or loaned a small number of machines to throwsters, including Schwarzenbach-Huber,

Adopted Findings—Horizontal Conspiracy

Burlington, Madison, and the Judson Mills division of Cotwool Manufacturing Corp., a company affiliated with DMI. (Dx 51-10; 79 Tr. 15437 and 15439 [Waters].)

(21) Shortly after shipments of ARCT machines into the United States began, Leeson threatened and then commenced patent infringement litigation against purchasers of the equipment. On April 1, 1960, Leeson sued Cotwool in the United States District Court for the Western District of South Carolina charging that the use of ARCT machines by Cotwool's Judson Mills division infringed Leeson's '105, '108 and '109 patents. In response, an action was commenced by Whitin on May 11, 1960 in the District Court in Boston, Massachusetts seeking a declaratory judgment that Leeson's '105, '108 and '109 patents were invalid and not infringed by the ARCT machines. DMRC and Judson Mills became parties to this litigation by the filing of a supplemental and amended complaint in Boston in August, 1960.* (Dx 709-105; Dx 638; Dx 643-3569.)

(22) The litigation involving ARCT machines was expanded in November 1961 when Leeson filed a demand for arbitration against Schwarzenbach-Huber Company. In its demand, Leeson claimed that Schwarzenbach-Huber had breached its Fluflon license agreement with Leeson by failing to pay royalties on yarn produced by ARCT machines which it had obtained from Whitin. Schwarzenbach-Huber promptly advised DMRC of Leeson's action and, pursuant to the sublicense agreement between DMRC and Schwarzenbach-Huber, DMRC agreed to defend the arbitration. On April 25, 1962, on DMRC's motion, an order

* Unless the context otherwise requires, we shall hereafter refer to all of the domestic litigation involving the ARCT machines as the "Boston litigation."

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was entered by the District Court in South Carolina—where the *Leesona v. Cotwool* case was pending—enjoining Leesona from taking further steps in the arbitration. (Dx 727-4481; Dx 728-4484; Dx 729-4483; Dx 641-4504; Dx 643-3569; *Leesona Corp. v. Cotwool Mfg. Corp.*, 204 F.Supp. 141 [W.D.S.C. 1962].)

(23) In March of 1960, Armitage of DMRC had discussions with Dalton McMichael, President of Madison Throwing Company, about the then-pending litigation between Leesona and Madison. (See ¶¶ 13 and 14, above.) Armitage, with the encouragement of Waters, told McMichael that DMRC had a great deal of background in this field and offered to assist Madison in the suit by meeting with its counsel—David Rabin—and making available to him DMRC's searches of the prior art and other information. Following up on this offer, on April 6, 1960 Armitage sent McMichael a copy of an opinion letter by Granville Brumbaugh concerning the validity of Leesona's false twist patents. The opinion letter concluded that the patents should be held invalid and Armitage expressed the hope that the letter would be of value to Madison's counsel. (Dx 712-726; Dx 713-4480; Dx 636-110; Px 250-40.)

(24) In late July 1961—approximately three months before the beginning of trial in *Scragg v. Leesona* in Canada—Armitage and Mueller of DMRC met with T.N. Dufort of Scragg to discuss their mutual interest in defending against the Leesona patents. On August 26, 1961, Armitage wrote Dufort reporting that both Chavanoz and DMRC were entirely willing to have Scragg engage Brumbaugh—DMRC's and Whitin's counsel in their litigation with Leesona—to participate in the Canadian case. Armitage told Dufort, “[DMRC and Chavanoz] both feel that all of us have everything to gain through such a move.” In addi-

Adopted Findings—Horizontal Conspiracy

tion, Armitage said he had no objection to Scragg employing Ken Fox to act as a consultant in the Leesona litigation. Fox had been engaged by DMRC as an expert and it was contemplated that he would testify against Leesona in the *Cotwool* case. (Dx 722-202; DX 724-2130; Dx 726; Px 1291-1549.)

(25) DMRC also offered to assist Southern Silk Mills in its litigation with Leesona. This offer was declined. (24 Tr. 5087-88 [Armitage].)

(26) In sum, in every North American litigation in which the validity of the Leesona patents was at stake (see ¶¶ 10-15 above), DMRC offered to assist the parties opposing the patents. [Material not adopted.]

(27) In November 1957—shortly before execution of the first agreement between DMRC and Chavanoz—DMRC sued Leesona in the United States District Court for the Eastern District of New York (the “Brooklyn litigation”). DMRC asserted a right to assignment of Leesona's '105, '108 and '109 false twist patents, and of Leesona's '229 patent and a pending application relating to post-treating of textured yarns. The complaint was based upon a 1954 contract between DMRC and Leesona under which Leesona was licensed to manufacture edge-crimping machinery embodying DMRC's inventions. DMRC claimed that the Leesona false twist and post treating inventions were conceived as a result of disclosures made by DMRC technicians in the course of work with Leesona on the edge-crimping apparatus and, accordingly, should have been assigned to DMRC under the grant-back clause of the 1954 contract. (*DMRC v. Leesona Corp.*, 201 F.Supp. 776 [E.D.N.Y. 1962]; Px 1067-3419; 19 Tr. 3918 [Davis]; Px 2-138 [12/31/57 agreement between Chavanoz and DMRC].)

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(28) Before the Brooklyn litigation went to trial, DMRC abandoned its claim to Leesona's false twist patents, leaving the action limited to post-treating. On January 9, 1962, the District Court, after trial, found for Leesona and dismissed DMRC's complaint. The Court of Appeals for the Second Circuit affirmed this decision on March 29, 1963. (Dx 640-3599; *DMRC v. Leesona Corp.*, 201 F.Supp. 776 [E.D.N.Y. 1962], *aff'd*, 315 F.2d 475 [2d Cir. 1963]; 76 Tr. 14813-14 [Conrad].)

(30) During the pendency of the Brooklyn and Boston litigations, DMRC provoked two interference proceedings in the Patent Office asserting rights to inventions claimed in patents owned by Leesona. (Dx 635; Px 70-630 at p. 183; Dx 642.)

(31) The first interference was declared in January 1959. DMRC claimed priority over Leesona's '108 patent, based upon an application of Bolinger and Klein (DMRC employees) for a patent on an invention relating to false twist texturing. On motion of Leesona, this interference was dissolved on August 12, 1960 and this action was affirmed by the Patent Office's Board of Appeals on or about February 27, 1964. DMRC appealed to the Court of Customs and Patent Appeals which affirmed the decision below on February 24, 1966—almost two years after the Boston litigation was settled. (Dx 635; Px 70-630 at pp. 183, 249 and 275; 76 Tr. 14814-15 [Conrad].)

(32) The second interference was declared in April 1960. Based upon DMRC applications (Klein and Bolinger, and Klein and Rowe) relating to edge-crimping, DMRC claimed priority over Leesona's '229 (Saaba) post-treating patent and an application by Stoll and Stucki. Leesona again prevailed and the interference was dissolved by the Patent Office on March 13, 1962. (Dx 642.)

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(33) During the pendency of the Boston litigation, Leesona settled its other patent litigations in the United States.

(34) Around August 1962, following an initiative by Southern Silk Mills, Leesona settled the infringement litigation it had brought against Southern Silk (see ¶ 11 above). As announced in the press on August 31, 1962, the settlement involved (a) dismissal of the litigation concerning Leesona's '105, '108, '109 patents, (b) an order for Leesona "Model 553 high-speed stretch yarn machinery" by Southern Silk, and (c) execution of "Leesona's standard licensing agreement covering the operation of this equipment." Although the settlement permitted Southern Silk to continue using its home-made false twist machines without payment of royalties, Leesona did not believe those machines would be running much longer, and this provision was not mentioned in the press account of the settlement. Officials on the Whitin-DMRC side of the Boston litigation were contemporaneously aware of the Southern Silk settlement. (Dx 732; Px 1204; Dx 206-2054; 76 Tr. 14800-04 [Conrad]; 24 Tr. 5087-88 [Armitage].)

(35) In April 1963, Leesona settled the *Gibbs, Mechanical Specialty* and *Madison* cases (see ¶¶ 12-14 above).

[Material not adopted.]

(76 Tr. 14805, 14943-44, 14948 and 14962 [Conrad].)

(36) The settlement was reached after talks were initiated by Dalton McMichael of Madison within a month of the scheduled trial date. While Gibbs and Mechanical Specialty were nominally involved, Madison and Burlington orchestrated the settlement on behalf of the defendants: in the negotiations, Leesona dealt with Douglas Orr, Burlington's general counsel, and Thornton Brooks, its outside counsel. (76 Tr. 14804-09 and 14881-82 [Conrad]; Dx 137-485.)

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(37)

[Material not adopted]

Madison and Burlington took Leesona's standard license under the '105, '108, '109 and '247 (spindle) patents which provided for payment of royalties on the production of the Leesona equipment (with the exception of unmodified Model 550 machines which had always been royalty-free). This license was also executed by Madison's two co-defendants—MacField Industries and Nylon Processing Co. In addition, Burlington and Madison agreed to make substantial payments to Leesona in discharge of Leesona's claims of infringement for the period before the settlement: \$172,500 by Burlington and \$93,000 by Madison. Madison also consented to a final judgment decreeing the validity of Leesona's '105 and '086 patents (the two patents directly involved in the Madison branch of the case—see ¶ 13 above) and dismissing Madison's counterclaim with prejudice. (Dx 125-4113; Dx 126-4878; Dx 647-4114a; Dx 648-4114b; Dx 81-4116; Dx 124-4115; Dx 123-1800; 76 Tr. 14883 [Conrad].)

[Addition by the Court: "In the case of Gibbs and Smith, they took a Leesona manufacturer's license in which *Leesona paid them* to sell to its licensees while there were lucrative side deals in favor of both Madison and Burlington." (see PX 1249; PX 1250; Tr. Vol. 83, pp. 16,096-103).]

(38) Gibbs and Mechanical Specialty took Leesona's standard manufacturer's license under the '105, '108 and '109 patents. Gibbs consented to a final judgment decreeing the validity of the '105, '108 and '109 patents. Mechanical Specialty consented to a judgment decreeing the validity of the '105 and '086 patents (those directly involved in its branch of the case—see ¶ 12 above). (Dx 649-4120; Dx 650-4121; Dx 645; Dx 646.)

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(39) Burlington and Madison settled their controversy with Leesona—and eschewed a court test of the Leesona patents—despite having been offered assistance in the litigation by DMRC and despite having possession of the opinion of DMRC's outside patent counsel that the Leesona patents should be held invalid.

[Material not adopted.]

(See ¶ 23 above.)

(42) In addition to its settlements, Leesona entered into its first manufacturer's license agreement during the pendency of the Boston litigation. The agreement was executed in April 1962 with Heberlein Patent Corporation, a New York corporation affiliated with Heberlein A.G., a significant European manufacturer of false twist and other textile machinery. The agreement recited that the Heberlein equipment fell within the scope of Leesona's patents and granted a license under the '105, '108 and '109 patents to manufacture and sell machines. At the time this license agreement was executed—and for many years before—Heberlein was the exclusive use licensee under the Chavanoz patents for all countries except the United States, Canada and Mexico. (Px 219-484; 19 Tr. 3893-94 [Davis]; Px 1-221 [Oct. 30, 1954 agreement between ARCT and Chavanoz]; Px 2-138 [12/31/57 and 12/28/62 agreements between Chavanoz and DMRC].)

(43) The patent litigations between Leesona and Chavanoz in France were actively prosecuted during the pendency of the Boston litigation, with mixed results through the years. (Dx 653; Dx 654.)

(44) Chavanoz's infringement action against Leesona and its customer was initiated by the service of a writ in

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1957. The case was assigned to the Tribunal de Grande Instance (Court of Extended Jurisdiction) in Lille, which referred the matter to a panel of experts to investigate the issues of infringement and validity. On May 5, 1960, the experts reported adversely to Chavanoz, finding no infringement and a lack of novelty in the Chavanoz patents, except in some of their details. The experts' report was confirmed by the court in Lille on May 26, 1961. The court declared the patents in suit invalid (except for two particular arrangements), dismissed the infringement claims, and ordered Chavanoz to pay Leeson 3000 francs in damages on its counterclaim. Chavanoz appealed this judgment to the appellate court in Douai. Two years later, on May 31, 1963, that court reversed the decision below, found Chavanoz's patents valid as to all apparatus claims (albeit invalid as to process claims), and appointed yet another panel of experts to investigate and report on the question of infringement. Leeson appealed this decision to the Supreme Court, Civil Section; its appeal was pending when the Boston litigation was settled. (Dx 654; Px 223-463 [3/31/64 agreement between Leeson, Chavanoz and ARCT-France at pp. 1 and 2].)

(45) Leeson's infringement action against ARCT-France, its customer and Chavanoz was initiated by service of a writ in July 1959. The case was assigned to the Tribunal Grande Instance in Privas which referred the matter to a panel of experts on June 29, 1960. A year and a half later, on January 22, 1962, the experts filed their report upholding Leeson's patents and finding them infringed by the use of the ARCT machines. Chavanoz challenged the experts' report and, on May 30, 1963, the Court in Privas overruled the experts. It held that, while the Leeson patents were valid, the ARCT machine constituted

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an application of Chavanoz's French 1,054,338 patent (counterpart to the U.S. '893 "bathtub" patent), and not an infringement of the Leeson patents. The court further declared that Leeson's conduct in bringing the action was abusive, and ordered it to pay 5,000 francs in damages. Leeson appealed this decision to the appellate court in Nimes; its appeal was pending when the Boston litigation was settled. (Dx 653; Px 223-463 [3/31/64 agreement between Leeson, Chavanoz and ARCT-France at p. 21].)

(46) ARCT-France—revealing its frustration over the seemingly endless litigation—reported the Privas court decision to Whittin on June 7, 1963 stating, "It is the first time that, in false twist matters, such a clear decision has been rendered." (Dx 740.)

(47) Robert Leeson's reaction to the French litigations was of a similar nature. Asked how many suits there were, he answered:

"I can't remember with any clarity except the fact that I have always remembered that it was a very difficult process. We—they—we won a suit, they won a suit, then both decisions were overturned; as I remember it in the French courts you take four years to get a decision and then you start all over again. You can't use any evidence of the first decision. So it takes another four years."

(18 Tr. 3760-61 [Leeson].)

(48) As noted (§ 21 above), Leeson's initial suit in the United States involving the ARCT machine was brought against Cotwool in South Carolina in April 1960. There followed almost three years of maneuvering and motion practice by both sides devoted to securing the most favorable forum in which to litigate the Leeson patents. The

Adopted Findings—Horizontal Conspiracy

first step was Whitin's initiation of a declaratory judgment action against Leesona in Boston in May 1960; DMRC and Cotwool became parties to that action shortly thereafter. In September 1960, on Leesona's motion, DMRC and Whitin were added as defendants in the South Carolina action. This meant that both actions now involved the same parties. (Dx 638; *Leesona Corp. v. Cotwool Mfg. Corp.*, 204 F.Supp. 139 [W.D.S.C. 1962].)

(49) DMRC and Whitin then moved in South Carolina for an order dismissing the complaint against them on the grounds of lack of jurisdiction and improper venue. At the same time, Whitin moved in the alternative for severance from the South Carolina action and transfer of Leesona's claim against it to the District Court in Boston. On January 26, 1962, the District Court in South Carolina denied the motions to dismiss, but reserved decision on Whitin's severance and transfer motions. In the meantime, back in March of 1961, Leesona had obtained a stay of all proceedings in Boston pending the outcome of the South Carolina case. (*Leesona Corp. v. Cotwool Mfg. Corp.*, 204 F.Supp. 139 [W.D.S.C. 1962]; Px 1205.)

(50) On April 19, 1962, the South Carolina District Court granted Whitin's motion for a severance and transfer to Boston pursuant to 28 U.S.C. § 1404 (a). The remaining action against Cotwool and DMRC was stayed pending the entry of final judgment by the District Court in Boston. Leesona, continuing its struggle to avoid the First Circuit, appealed to the Fourth Circuit (and simultaneously applied for a writ of mandamus) from the order of severance and transfer. Leesona had previously appealed from the District Court's injunction against further prosecution of the Schwarzenbach-Huber arbitration and

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Leesona asked the Court of Appeals to consider the two orders together. Whitin moved to dismiss the appeal. (*Leesona Corp. v. Cotwool Mfg. Corp.*, 204 F.Supp. 139 [W.D.S.C. 1962]; [same title], 204 F.Supp. 141 [W.D.S.C. 1962]; Dx 643-3569 [(same title), 308 F.2d 895 (4th Cir. 1962)].)

(51) On October 8, 1962, the Court of Appeals (per Judge Haynsworth) granted Whitin's motion and dismissed the appeal. Turning to Leesona's alternative application for mandamus, the Court held that the order granting severance and transfer to Boston was not an abuse of discretion. (Dx 643-3569 [*Leesona Corp. v. Cotwool Mfg. Corp.*, 308 F.2d 895 (4th Cir. 1962)].)

(52) On March 1, 1963, following the Fourth Circuit's decision, Whitin moved the District Court in Boston to vacate the stay it had entered in 1961 and allow prosecution of Whitin's declaratory judgment action to go forward. For once, the motion was unopposed and, on April 15, 1963, District Judge Ford—to whom the case had been assigned from the start—vacated the stay. (Px 1205.)

(53) The transfer from South Carolina and the reactivation of the Boston case were hardly regarded as propitious developments by Leesona. Robert Conrad, Leesona's trial counsel, had studied Judge Ford's track record in patent cases and advised his client of the outcome:

"Q. What was that record?

A. It wasn't favorable to patent owners. As a matter of fact, it was quite frightening to a patent owner. I think he had considered something like eleven patent cases in the course of eight or ten years and held the patent invalid in all but one of the cases, and in that one case he was reversed by the First Circuit, as I recall.

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I think the tip-off came to us to look into that when a Boston patent lawyer friend of mine told me that in a case that he was handling that Judge Ford had asked to see the man who had committed the invention."

Robert Leeson had no difficulty recalling the results of Mr. Conrad's investigation:

"... we were faced with litigation in Boston before Judge Ford, and Judge Ford had a reputation of never having upheld a patent, except one in which the Court of Appeals overruled him, and so that was a pretty horrifying circumstance.

* * *

"When you get in front of a judge that has never upheld a patent, you have to be scared."

(76 Tr. 14818-19 [Conrad]; 18 Tr. 3796-97 and 3848-49 [Leeson].)

(54) The process of gaining a toehold in the United States market was a difficult one for the ARCT machines. In 1959, when the FT-1 machine was introduced, Leeson completely dominated the market—indeed it was essentially the only domestic seller of false twist equipment. At that time, the Superloft and Flufon yarns were used principally in products such as hose and leotards where a high degree of uniformity was not required. The market for such yarns was saturated by Leeson production and there was little demand for additional capacity. (13 Tr. 2771-72 and 2799-800 [Waters]; Dx 768-6; Px 282-1654; Px 265-1006; Dx 849; Dx 850.)

(55) Recognizing the market realities, Whitin directed its sales efforts at convincing potential customers that

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the higher quality ARCT yarns could open up large new markets previously untapped because of the quality limitations of the Leeson equipment. The argument did not take the industry by storm: in 1959, Whitin sold 8 machines; in 1960, it sold 7; in 1961, in a market upturn, 43 machines were sold; in 1962, the doldrums returned and Whitin managed to sell only 1 commercial machine and 1 experimental, 72-spindle machine. (Px 568-3580; Dx 849; Px 265-1006; Dx 51-10.) This lackluster record had nothing to do with the quality of the equipment. On the contrary, the important companies in the industry recognized that the ARCT machine was setting new standards of performance:

—Dalton McMichael of Madison in 1958:

"Quite frankly, after going over the machine thoroughly and seeing the yarns produced on the machine under some very adverse conditions, I am inclined to feel that the machine does have some outstanding quality features. This, I believe, is mainly as a result of the heating unit, and based on my limited technical knowledge, it is by far the outstanding heating unit that I have seen to date on false twist equipment." (Dx 519-1005.)

—Joe Hamilton of Burlington in 1960:

"Confirming our discussions in New York, your ARCT machine is the only false twist process on which we have made a completely uniform and satisfactory weaving yarn for either warp or filling.

* * *

"We will also back you up with support on the excellent results with the ARCT machines as to quality, uniformity for weaving, and comparative costs." (Dx 31-4857.)

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—Michael Strub of Duplan in 1961:

“In so far as the ARCT-FT Machine is slowly but surely establishing its reputation here through the few people that have the machine as well as DuPont, Celanese and others as being the machine to produce the most uniform high quality yarn, it will remain to be seen whether the yarn from the new Heberlein Machine can compare or exceed the ARCT yarn.” (Dx 184-1550.)

(56) Although market factors may have contributed to the slow pace of early ARCT sales, the pendency of patent litigation with Leesona was a major impediment. From the earliest days, the Leesona patents cast a pall over the idea, and then the efforts, to introduce the ARCT/Chavanoz technology into the American market. According to Armitage of DMRC, even Chavanoz was not immune:

“Chavanoz was quite concerned over the cost of litigation in the United States, and they knew that if the ARCT machine were introduced in this country, there would be litigation to determine at least its infringement or non-infringement of the Leesona patents, and they knew Leesona would go all out in an effort to keep them out.”

(25 Tr. 5272 [Armitage].)

(57) When Armitage and Soep sought to interest American firms in the manufacture and sale of ARCT machines, they were met with rejection based on fear of the patent situation. In early 1958, U. S. Textile Machine Co.—a prospective manufacturer—balked at the project in view of the uncertainties. Armitage reported to Soep:

“Bud Thomas [of U.S. Textile] told me that they have considerable question about the patent situation

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and that they are afraid of being sued for infringement of existing United States patent.

* * *

“In fact, Mr. Ischinger [U.S. Textile’s patent counsel] asked me whether Chavanoz or ARCT would be willing to give U.S. Textile Machine and its customers a guarantee against loss through suit for patent infringement by third parties. I told him that I have nothing to say about any such provision but that it would certainly be my recommendation, if I were asked to make one, that no such guarantee be given.”

No arrangement was concluded with U. S. Textile Machine Co. (Dx 138-335.)

(58) The possibility of patent infringement litigation was a cause of concern to Whitin as well. In 1958, in the course of investigating the merits of a relationship with ARCT-France, Robert Waters acquainted himself, at least superficially, with the patent situation in the false twist industry. He learned of Leesona’s pending infringement litigations (Southern Silk, Burlington-Madison) and concluded that the patent picture was “shrouded in mystery.” And, when an agreement with ARCT-France was finally reached, it included the protection which U.S. Textile Machine Co. had failed to obtain: a covenant that third-party infringement suits involving Whitin would be defended by ARCT-France and Chavanoz. (Dx 768-6; Px 206-7 [Article 5, ¶ 3 (b)].)

(60) Whitin and DMRC were acutely aware from the start that the threat of infringement litigation by Leesona would seriously jeopardize the ARCT program. In 1959, upon learning from Waters that the Permatwist partners had threatened Schwarzenbach-Huber—one of Whitin’s first ARCT customers—Armitage wrote:

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"This is a very serious matter and can be very harmful to the possibilities of sale of the Whitin-ARCT machine."

Waters responded:

"I agree that the threat has undoubtedly been made by conversation to many mills who might otherwise be interested in our FT machines. There is no question about the detrimental effect that it has upon the industry's interest in the ARCT machine."

The Schwarzenbach-Huber situation was hardly an isolated event. Waters recalled that, in the pre-litigation period, "the subject of patents and patent litigation was commonly brought up, frequently brought up." (Dx 709-105; Dx 710-4004; Dx 711; 14 Tr. 2901-02 [Waters].)

(61) While the threat of litigation was itself a deterrent to ARCT sales, the commencement of litigation in April 1960 was, of course, a far more serious matter. The tactics behind the timing of the suit were obvious. Armitage described them to Soep shortly after the complaint was filed:

"As you know, the timing of the Leeson suit against Judson has been very harmful to us, in that they selected a time to bring the suit so that the whole industry will be aware of it just as we are showing the ARCT equipment at Atlantic City."

(Dx 140-418.)

(62) Over the next three years—April 1960 through April 1963—the ARCT program limped along. The evidence concerning this period plainly reflects the adverse impact which the pendency of the litigation was having. Some examples:

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—Armitage in May 1960 (Dx 714-420):

"It would be a stimulation to be able to announce a new licensee, even in Canada, in the face of the legal difficulties which we are having."

—Carl Ferenbach of Leon Ferenbach at trial (12 Tr. 2517):

"Q. You were afraid to buy the machinery at this time because of that litigation, were you not?"

A. Well, certainly, yes, I think most everybody in the industry was."

—Klopman Mills, Inc. in August 1960 (Dx 716-4014):

"Confirming our telephone conversation of August 26 pertaining to the purchase of two ARCT machines, we have decided to cancel our verbal order on these two units in view of the legal matters involved with with license from Deering Milliken Research and since we would be liable in the event of infringement suits."

—George Norman of Burlington at trial (13 Tr. 2692-93):

"Q. You were aware that there was litigation between Deering Milliken Research Corporation, Chavanoz and ARCT and others on the one hand and Leeson on the other concerning the Leeson patents?"

A. In a general way, yes.

Q. Is it fair to say that people within Burlington followed that litigation with intense interest?

A. I would say so.

Q. The outcome was very important to Burlington.

A. I would say that it would be important."

—L. A. Dunbar of Textrol Fibres Limited, a Canadian throwster, in March 1961 (Dx 718-4017):

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"... in view of the litigation you have pending against you on the very subject matter that was questioned by our lawyer, we find we have no alternative but to automatically cancel the machine which is mutual by your non-delivery of the revised license contract.

• • •

If and when your patent problems are finally settled and all litigations out of the way and the specific clause we refer to has been re-worded, we would then give consideration to this type of equipment at some future date."

(See also 78 Tr. 15188-90 [Armitage]; 67 Tr. 12914 [Smith]; 14 Tr. 2884-86, 2927-28 and 2954-55 and 79 Tr. 15533 [Waters]; 38 Tr. 7667-68 [Crouzet]; Dx 849 at pp. 2 and 3; Dx 730; Dx 731-4022; Dx 721-116; Px 304-54; Px 305-55; Px 1028-3291.)

(63) Around the end of April 1963, Whitin introduced the ARCT FT-3 machine at the Knitting Arts Exhibition in Atlantic City. Because of the advent of this new machine and a contemporaneous explosion in demand for stretch yarn, Waters viewed this as "the first real opportunity we have had to make a deep penetration of the American market." The trade press, however, had just carried news of Leeson's settlements with Madison/Burlington, Gibbs and Mechanical Specialty—in stories which would have led anyone to believe that the Leeson patents had been conclusively adjudicated as valid (see ¶¶ 40 and 41 above). The result was predictable: Whitin was met with a barrage of demands from potential customers for protection against having to pay double royalties on ARCT production if and when Leeson won the Boston litigation. Whitin was in no position to satisfy these demands and, as a consequence,

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millions of dollars' worth of sales were lost or in jeopardy. (Dx 132; 79 Tr. 15533-34, and 14 Tr. 2911-14, 2950-52 and 2976-77 [Waters]; Dx 82-214; Dx 83-4074; Dx 84-215; Dx 739; Dx 735; Dx 736; Dx 737; Dx 738; Dx 684.)

(66) Under the escrow arrangement, it was provided that DMRC would offer ARCT customers a use license on the following terms: (a) royalties were to be increased from 2½ to 3½% for old licensees accepting the escrow arrangement and for any new licensees; (b) 2.9% of the 3½% royalty would be placed in escrow; (c) if the Boston litigation were lost, the escrowed royalties would be returned to the licensees and the royalty rate thereafter would be .6%; (d) if the Boston litigation were won or settled, DMRC would retain the escrowed royalties and the royalty rate thereafter would be 3½%. Starting in June 1963, this arrangement was offered to all existing and prospective licensees. (Px 296-12; Dx 760; Dx 761.)

(68) There is no suggestion in the evidence that Leeson had anything to do with the escrow arrangement—except in the sense that its threats of double royalties jeopardized sales of ARCT machines and inspired Whitin, DMRC and Chavanoz to search for a solution which would permit sales while the Boston litigation continued. Indeed, there is uncontroverted evidence that Leeson learned of the escrow arrangement from Dalton McMichael of Madison. Far from welcoming it as the forerunner to an illicit settlement, Leeson regarded the escrow as an adverse development which would neutralize the dampening effect of the pending litigation on ARCT sales. A memorandum of a Leeson-Permatwist meeting on June 16, 1963 records these events as follows:

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"Mr. Leeson reported that he had just been advised by Mr. Dalton McMichael of Madison that the ARCT machine is now being offered to licensees on a revised royalty basis. . . . The ARCT royalties are also being offered on the basis that 5¢ is being placed in escrow for possible damages in the event Leeson wins the ARCT patent litigation.

Mr. Leeson feels strongly that the Leeson 553 machine will be placed immediately at a competitive disadvantage with the ARCT machines."

(Px 372-593; Dx 131-511; 18 Tr. 3846 [Leeson]; 67 Tr. 12927 [Smith]; 79 Tr. 15536 [Waters].)

(70) The escrow arrangement accomplished its objective of stimulating sales by defusing the impact of Leeson's threats of double royalties.

[Material not adopted.]

(Dx 743-78; Px 949-79; Px 950-81; Dx 478; Dx 479; Dx 746-4033 [see "P.S." on p. 2]; 12 Tr. 2539-40 [Ferenbach]; 67 Tr. 12917, 12923-24, 12930-31, 12961 and 12994-95 [Smith]; 14 Tr. 2916-17 and 80 Tr. 15544-45 [Waters].)

(73) The first settlement effort took place in London, England, in March 1961 at a meeting between Leo Soep and Robert Conrad. Soep proposed that (a) Leeson and Chavanoz cross-license each other, (b) Chavanoz and DMRC increase their royalty rate to 5% as the sublicense permitted if there were no substantial unlicensed competition, and (c) the increased royalty be split among Leeson, Chavanoz and DMRC. (Px 1043-722.)

(75) DMRC's interest in the proposal—and, indeed, Chavanoz's desire to pursue it—was nil. Within the year, in response to complaints by some prospective licensees, DMRC and Chavanoz entered into a formal agreement

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which eliminated the provision that royalties could be increased to 5% if there were no substantial unlicensed competition. The effect of this, of course, was to relegate the Soep proposal to the ashcan—a result consistent with Conrad's recollection:

"Q. Do you recall whether there were any further discussions of that proposal after that initial discussion to which you referred?

A. There were none that I knew about."

(76 Tr. 14914 [Conrad]; Px 2-138 [Supplemental Agreement dated 9/1/61].)

(77) At their meeting on May 21, 1963, Soep and Davis advanced a number of possible settlement formulas. Davis proposed the standard Leeson machinery manufacturer's license under which ARCT machines would be sold to Leeson licensees and Chavanoz would receive one third of the royalties collected on the production of those machines. Soep, in turn, suggested several alternatives, each calling for some kind of payment to Leeson in exchange for a "hold harmless clause." There was also discussion of a pooling of the Leeson and Chavanoz patents, but Soep and Davis evidently agreed that any such solution should be "considered very carefully from the angle of anti-trust law." (Px 363-500A.)

(79) Soep's memorandum of his meeting with Davis mentions the possibility of a conference among the "Managements" of the adversaries in mid-June. Although jeopardized by Leeson's refusal to instruct its sales force not to threaten ARCT customers with double royalties, this meeting took place on June 18, 1963 at the Algonquin Club in Boston. The meeting was a bust. Ward Smith, speaking for the Whitin side, offered to settle the litigation on the

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basis of a consent decree of validity but non-infringement of the Leeson patents. He offered no money. Robert Leeson, speaking for himself and Permatwist, offered the standard Leeson manufacturer's license. Neither proposal was of any interest to the other side and the meeting broke up, after acrimonious exchanges, with no settlement in sight. (67 Tr. 12919 and 12921-22 [Smith]; Px 366-510; 76 Tr. 14876, 14891-92 [Conrad].)

(80) The evening after the Algonquin meeting, Leeson spent an hour with Bolton of Whitin at Bolton's house discussing the events of the day. Bolton told Leeson how educational the meeting had been for him, admitted to having completely misunderstood Leeson's settlement offer, and promised to keep searching for a solution. Leeson simply reiterated the position he had apparently stated at the Algonquin:

"... one had a 50% chance of winning in any court at worst, and that we liked this 50% chance better than taking any further royalty reduction than that offered."

Leeson may have been overstating his assessment of Leeson's chances in Judge Ford's court. Just before the Algonquin meeting, Leeson's outlook had been described as "gloomy" in an internal Leeson/Permatwist memorandum. In any event, Leeson came away from his meeting with Bolton impressed by Whitin's ignorance and convinced that DMRC, and not Whitin, was in charge. (Dx 131-511; Px 372-593; 18 Tr. 3703 [Bolton]; 76 Tr. 14879-80 [Conrad].)

(81) During the remainder of 1963, no further settlement talks took place. Some letters were exchanged between trial counsel about whether Whitin intended to make any further

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proposals, but the answer was negative and, as of the end of 1963, there was no prospect of settlement. (Px 439A-2135; Px 440-3585; Px 442-3572; Px 443-3573; Px 445-3574; 67 Tr. 12934 [Smith].)

(82) In December 1963, the Boston litigation was on the eve of trial. On December 2, Whitin filed a motion for a speedy trial (). At a hearing on December 9, Judge Ford told the parties that he had tentatively set the case down for trial beginning December 4, but had been unable to proceed since discovery was not completed. Judge Ford set a 30-day deadline for conclusion of all discovery and said that his calendar would permit the trial to begin around mid-January 1964. (Dx 655; Dx 656-3208 at pp. 2, 9 and 11.)

(83) During the December 9 hearing, Conrad, on behalf of Leeson, obtained leave of court to file a counterclaim against Whitin. The strategy behind this move was soon to be apparent. On December 23, Leeson filed a counterclaim for infringement damages and, approximately a week later, filed a demand for a jury trial "on the issues of infringement and validity of its United States Patents Nos. 2,803,105, 2,803,108 and 2,803,109 as set forth in its counterclaim filed December 23rd, 1963." Shortly thereafter, on January 10, 1964, Leeson filed another demand for jury trial, this time "on the issue of damages as set forth in said counterclaim." [Material not adopted.] (Dx 656-3208 at pp. 9 and 10; Px 1205; Dx 658; see ¶ 53 above.)

(84) Whitin reacted with alacrity. On January 7 and 20, 1964, it moved to disallow Leeson's jury demands, contending that they were untimely and interposed for purposes of delay. Judge Ford agreed. On January 31, he struck the jury demands in a memorandum opinion saying:

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“Further, the Court would not have granted Leeson leave to file its counterclaim if it had known Leeson would claim a jury trial.”

(Dx 658; Dx 659.)

(85) Leeson, however, was not totally daunted. On February 3, 1964, it moved in the District Court to stay the trial pending determination of an application to the First Circuit for a writ of mandamus to vacate the order striking the jury demands. Judge Ford granted Leeson's motion and stayed the trial until further order of the court. On February 25, 1964, Leeson filed its mandamus papers in the Court of Appeals. The application had not been acted upon at the time the litigation was settled. (Px 1205; Dx 660; 76 Tr. 14817-18 and 14846 [Conrad].)

(86) On January 23, 1964—in the midst of the flurry of activities prompted by Leeson's jury demands and on the eve of trial (Judge Ford having stated that his calendar might be clear by mid-January)—Leeson and Armitage met, possibly at Roger Milliken's suggestion, to discuss settlement. Once again, the encounter proved to be the irresistible force meeting the immovable object (according to Bolton, “a good simile”) (18 Tr. 3704-05). Leeson described the settlement discussion in a contemporaneous memorandum (Px 338-2092):

“We were about to discuss the mathematics between their April offer of no royalty* and ours of 2¢ out of the 6¢ royalty when he informed me that, ‘Soep would not settle for any more than what he estimated to be the cost of the suit, or \$50M.’ ‘A’ said

* There is no evidence of any settlement discussions in April of 1963 or any other year. No doubt Leeson was referring to the Algonquin meeting in June.

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he did not agree with the sum of \$50M—thought this to be a little low—but did agree with Soep's principle for settlement.

So, that is so substantially the same as the April offer, and so completely definitive, it cut off any further discussion of mathematics on my part.

• • •

I left it that he should ask Soep to reconsider his mathematics—there is more at stake than the cost of a suit. If you win you lose, and if you lose, you lose—because if the patent is broken, there will be no royalty.”

A few days later, Armitage called Leeson to report that he had consulted with Soep and there was no change in DMRC's and Chavanoz's position. Leeson responded, “Well, I guess that is that” and he and Armitage “bid each other good-bye.” (Px 338-2092 [1/24/64 Leeson memorandum]; Px 337-5255; 18 Tr. 3678-79 [Bolton]; Px 446-460.)

(88) Between the end of January and the beginning of March 1964, there were no further settlement discussions among the parties to the Boston litigation. Both sides were devoting their attention to the lawsuit—Leeson by seeking reversal of Judge Ford's order striking its jury demands; DMRC by continuing its technical trial preparation work on the so-called Finlayson machine which had been installed at Whitin. (Dx 414; see ¶ 85 above.)

(94) The first settlement conference after the Canadian decision took place on March 13, 1964 in New York. On March 11 and 12, representatives of Leeson and Permatwist met to discuss the upcoming settlement conference and other matters. Leeson reported that he felt the Boston litigation could be settled on Leeson-Permatwist's mini-

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mum terms: a cross-license of patent rights and a cash payment. It was agreed that Leeson should also seek to settle the foreign litigations. Leeson told the group that he did not think DMRC would settle if it had to share production royalties.

[Material not adopted.]

(Px 447-461; Dx 665-3586 at p. 2; 76 Tr. 14969-71 [Conrad]; 18 Tr. 3799, 3814 and 3850 [Leeson]; 19 Tr. 3964-65 [Davis].)

(95) Albert Davis of Leeson took handwritten notes of the Leeson-Permatwist meeting at which the possible settlement was discussed. The notes state (Dx 664-597):

"We will ask for *release* from D-M under the 3 patents asserted vs us in France & will give them *release* under our 3 patents in issue. No restriction on use to which either of us can put patents.

We will try for a world-wide settlement & will ask to be made an authorized machinery manufacturer in England."

(96) On March 13, 1964, the adversaries met to discuss settlement. Conrad testified that this was the first such meeting at which progress was made; he came away from it feeling that the case would be settled. The parties discussed the patents under which they would be released and the payment which Leeson would receive. Armitage offered Leeson three choices: \$100,000 payable immediately when the agreement was signed; 10% of DMRC's royalties up to a limit of \$150,000; or \$200,000 also payable out of royalties, but stretching over a long period of time. Leeson chose the second alternative, and it was agreed that lawyers on the Leeson-Permatwist side would draft an

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agreement. There was also a discussion between Leeson and Soep, on behalf of Chavanoz, and they agreed that a worldwide settlement should be made. (Dx 665-3586; 76 Tr. 14843 and 14892-95 [Conrad].)

(97) By March 23, 1964, a draft settlement agreement covering the United States litigations had been prepared by the Leeson representatives and received by Armitage. While the draft was under preparation, on March 17, Leo Soep wrote Leeson confirming Chavanoz's desire to "make peace elsewhere too." Soep expressed his pleasure at the success of Leeson's discussion with Armitage about "settlement of the present conflicts." On March 18, Armitage wrote Soep about the progress of the settlement discussions and the scheduling of the next meeting among the parties. He reported (Px 448-462):

"My conversations with Al Davis have been on a very friendly basis, and I have found him entirely cooperative in our discussion of some of the details of the agreement. I am sure that it is their idea, just as it is ours, to clear up all possibilities of future litigation on the equipment now being offered and any new models having similar components and functions."

(PX 447-461 [3/23/64 Mueller diary]; Px 221-587A; Px 370-586.)

(98) When Armitage received Leeson's draft settlement agreement, he reviewed it with Walter Mueller. The next day, March 24, he called Davis of Leeson to discuss the draft in anticipation of the meeting among the parties which was scheduled for the following day. After going over a number of points, Armitage directed Davis' attention to the final sentence of draft paragraph 7 which provided:

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"DMRC agrees that if it shall reduce the rate of royalties payable by any of its said licensees, or shall grant any new license at a rate of royalty less than it is currently charging on new licenses, it will nevertheless compute the payment to be made to LEESONA as if the royalties received from its license had been computed and paid at the rate of royalties presently being charged." (Px 221-587A.)

Armitage told Davis that this sentence could be interpreted as a penalty against reducing royalties; that this raised an antitrust question; and that Armitage objected to it. The discussion was recorded and transcribed by Davis as follows (19 Tr. 3944-45 [Davis]; Px 222-588):

"Armitage: In effect that if the rate of royalties is reduced we would have to pay a higher percentage and if you recall one of the points I made most strongly about this was that you would get \$150,000 provided that we got \$1,500,000 but if we in toto get less than that then you will get less in toto than \$150,000 but there is no reason for us to reduce royalties unless you force us to do so.

Davis: Yes.

Armitage: Yes.

Davis: Yes.

Armitage: And of course, I'd hate to put in anything here that looks like a penalty against reducing royalty rates because I have in mind this anti-trust thing.

Davis: Yes.

Armitage: Yes: So if you would raise this point.

Davis: Will do, We'll bring up all of the points.

Armitage: But the difficulty I have with paragraph 7 involves only the last sentence which is that we agreed that if we reduced the rate of royalties, now, we certainly, as you know the royalties can not be

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reduced unless DMRC agrees to the reduction. Our only income is from royalties.

Davis: Yes.

Armitage: We don't get any income on machines. We don't get anything from the sale of the machines. We only get on the royalties. It is our interest to get the royalty as high as possible consistent with getting any royalty at all. If you reduce royalties we have to reduce royalties, I assume.

Davis: Sure."

(100) On March 25, 1964, the adversaries met in New York to work on the draft agreements. The provision to which Armitage objected in his conversation with Davis was eliminated and other changes were made including the drafting of separate agreements covering (a) potential patent disputes between Leeson and DMRC over edge-crimping, (b) the litigations between Leeson and Chavanoz and ARCT in France and potential disputes in France and elsewhere, and (c) extension of the covenants not to sue to embrace Canada and Mexico. (Px 449-466; Px 223-463.)

[Material not adopted.]

(101) The final settlement agreements, although dated March 31, were signed on April 13, 1964.

[Material not adopted.]

(Px 450-803; Px 223-463.)

(105) Paragraph 6 of the agreement provides for the payment to Leeson by DMRC of \$150,000. It is specified that this payment is to be made by giving Leeson 10% of DMRC's royalties until the \$150,000 figure is reached. It is further provided that DMRC need not pay more than \$50,000 in either of the first two years after the agreement was signed. (Px 223-463.)

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(117) The "Daily News Record" carried two stories about the settlement on April 16, 1964. The lead story reported the basic terms of the agreements, describing the exchanges of covenants not to sue and the provision for participation by Leeson in DMRC royalties. (Dx 666.)

(118) It is undisputed that, well before the settlement, many of the plaintiffs knew that DMRC and Chavanoz had obtained an opinion of counsel stating that Leeson's '105, '108 and '109 patents should be held invalid in light of the prior art. Indeed, as plaintiffs concede in their trial brief and as the evidence shows, copies of this opinion were circulated to leading throwsters in an effort to persuade them to buy ARCT machines. In addition, DMRC communicated its confidence in the outcome of the Boston litigation to the entire industry when it offered the escrow arrangement in 1963 and the early part of 1964. (Plaintiffs' Trial Brief on Antitrust Issues at p. 49; Px 573-1685; Px 569-1603; Px 567-1686; 27 Tr. 5606-09 [Roberts]; 15 Tr. 3131-32 and 17 Tr. 3478-79 [Hamilton]; Px 249-39; Px 250-40; Dx 128-4073; Px 95-301; Dx 71-3405; 13 Tr. 2664 [Norman]; Dx 748; Dx 749-734; Dx 760; Dx 761; Dx 713-4480.)

*Adopted Findings—Horizontal Conspiracy***ARCT-France Proposed Findings (Adopted):**

35. The litigation with Leeson had a depressing effect on Whitin's sales of FT machines (Vol. 14, pp. 2913, 2928, 2967-7, Vol. 38, p. 7667; Vol. 67, pp. 12912, 12914).

[Material not adopted.]

(Vol. 67, p. 12914; DX 51-10). The throwsters, including some of the plaintiffs herein, demanded either an indemnity or an arrangement whereby royalty payments would be placed in escrow pending final outcome of the litigation (Vol. 14, pp. 2913-4, 2950-2, 2954, 2976-7; Vol. 79, pp. 15535-6; DX 82-214; DX 84-215; DX 132; DX 781). Throughout this period, Robert Waters pressed Norman Armitage to modify the DMRC license arrangement so as to provide for escrowing of royalties and thus enable Whitin to sell FT machines (Vol. 14, p. 2912; Vol. 67, p. 12961) but was refused, and orders were lost as a result of such refusal (Vol. 79, pp. 15532-4). This difficulty with Armitage led to a further deterioration in their relationship, and following the spring of 1963 the relationship became increasingly forced (Vol. 14, pp. 2962-3, 2976-7; Vol. 80, pp. 15541-2). The friction and antagonism that developed at the interface of the activity of DMRC in its licensing activity on the one hand and Waters in his sales activity on behalf of Whitin and ARCT, Inc. on the other hand continued into the period of this litigation (Vol. 25, p. 5277; Vol. 75, p. 14669; Vol. 78, p. 15309).

36. On June 12, 1963, Whitin finally persuaded DMRC to escrow royalties, but at a price. In arm's length negotiations (Vol. 82, p. 15989), Whitin was required to pay DMRC 2% of the ex-works price of all machines thereafter sold and delivered, for which payment it might receive back (if Whitin won the suit or if it was settled) a miniscule

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.2 of the 2.9% of the escrowed royalties. As a further condition, the DMRC royalties were increased to 3½% of which all but .6% would be escrowed. (PX 296-12; Vol. 14, pp. 2955-6; Vol. 67, pp. 12914-6, 12959)

37. From Whitin's viewpoint, the sole purpose of the escrow agreement was to enable Whitin to sell machines (Vol. 67, p. 12929) and it did have a beneficial effect on sales (Vol. 67, pp. 12916-7). It was not, however, a permanent or complete solution. The lawsuit was still pending and continued to provide a climate of uncertainty (Vol. 67, pp. 12961, 12994-5). Moreover, Whitin was interested in manufacturing FT machines (Vol. 67, pp. 12924-5; Vol. 80, p. 15545; PX 1056) and was encouraged to do so by Mr. Crouzet because of the limited manufacturing facilities in France and the production problems in the 1963-1964 period. ARCT-France even agreed to waive the sum to be paid by Whitin upon the exercise of its manufacturing option. (DX 133) However, while the litigation was pending, Whitin could not take this step (Vol. 67, p. 12917) and later on Whitin's financial condition was not adequate (Vol. 67, p. 12924). From ARCT-France's standpoint, there was a financial risk involved that led Mr. Crouzet to set up a reserve fund (DX 206-2054; Vol. 41, pp. 8253, 8279-88).

39. During the first quarter of 1964, settlement negotiations with Leeson were resumed but this time by DMRC and Chavanoz. Such negotiations ultimately resulted in final settlement of the litigation, the terms of which are embodied in four written agreements (PX 223-463). Neither Whitin nor ARCT-France participated in the settlement discussions, except to the extent that representatives of Whitin did attend a meeting in New York where a discussion took place (Vol. 13, p. 2787; Vol. 14, p. 2915; Vol.

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80, p. 15543), and both ARCT-France and Whitin became parties to the settlement agreements (PX 223-463). Whitin was the plaintiff in the principal action being settled and for this reason was a necessary party to the settlement. ARCT-France, represented by Leo Soep, its attorney-in-fact and who also represented Chavanoz (PX 223-463), was involved with Leeson in litigation in France, and Leeson insisted that all litigation between the parties be settled. (Vol. 18, pp. 3760, 3796-8; Vol. 39, p. 7820; Vol. 67, pp. 12986-7; Vol. 76, pp. 14837-8; PX 340-3575; PX 370-586; PX 450-803; DX 664-597; DX 665-3586, pp. 2 and 3). Leeson's insistence on a worldwide settlement was prompted by the fact that at that time the French litigation in which it was involved with Chavanoz and ARCT-France had gone against it (DX 653; DX 654; PX 372-593).

40. The only reason that the settlement of the litigation with Leeson was desired by ARCT-France and Whitin was to provide freedom to manufacture and sell FT machines, including freedom on the part of Whitin to exercise its manufacturing option, and to remove the uncertainty and financial risk of a lawsuit (Vol. 14, pp. 2915-6; Vol. 38, pp. 7664-8; Vol. 80, p. 15545).

[Material not adopted.]

42. Following the organization of ARCT, Inc. and the departure of Robert Waters from Whitin in early 1966, Whitin made no further sales of FT machines and finally terminated its agreement with ARCT-France in June 1966 (Vol. 80, p. 15559).

*Adopted Findings—Horizontal Conspiracy***ARCT, Inc. Proposed Findings (Adopted):****Finding of Fact No. 43.**

The institution of the patent infringement action by Universal Winding (Leesona) against Cotwool, and the subsequent declaratory judgment action instituted by Whitin against Leesona in Boston created a difficult climate for the sale of the ARCT machinery in the U. S.

The primary interest in the outcome of this litigation insofar as Waters and ARCT-France were concerned was the desire that upon termination of the litigation there would be a freedom to sell ARCT machinery without the threat of litigation being instituted against the customer by Leesona and that Whitin would still be in a position to market the ARCT machinery in this country.

From time to time after the litigation was commenced, efforts were made by the respective antagonists to explore the possibility of a settlement.

Robert F. Waters was not a part of the management of Whitin Machine Works (Vol. 82, Waters, p. 15934-35), and accordingly, did not participate in any of the active negotiations which were undertaken. The record in this case discloses that on two occasions Waters met with representatives of Whitin Machine Works in conferences at which representatives of Leesona were present. The first of these was at the Algonquin Hotel in Boston. Vol. 13, Waters, p. 2786. Testimony of two of the principals attending this conference clearly indicated that nothing was accomplished except each side made a suggested proposal for settlement, and each proposal was promptly rejected. Vol. 67, Smith, pp. 12918-20; Vol. 76, Conrad, pp. 14891-92. The persons attending this meeting are shown on PX 431-457. Waters made no contribution to the discussions taking place at this meeting.

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Thereafter, the record discloses that Waters attended one other meeting in New York City at which further discussions were had in respect to settlement. Again, Waters was present only in his capacity as Sales Manager of Whitin Machine Works, and made no contribution toward the discussions which took place.

After the agreement of March 31, 1964, was executed, Waters was aware that purchasers of ARCT false twist machinery would not be subjected to a patent infringement suit by Leesona, and thus the final hurdle which had confronted him in the sale of ARCT machinery had been removed. He also understood that the sum \$150,000 was being paid to Leesona. Insofar as the specific terms of the 1964 settlement agreement were concerned, Waters was not furnished with a copy of the agreement, nor did he see a copy until shortly prior to the time his deposition was taken in this action. Vol. 13, Waters, p. 2787.

Waters took no part in the preparation, discussions relating to or execution of the March 31, 1964 agreement. PX 223-463.

See also proposed Findings of Fact Nos. 38, 39, and 40 submitted by ARCT-France.

Record References:

Vol. 82, Waters, pp. 15934-35; Vol. 13, Waters, pp. 2786-2787; Vol. 67, Smith, pp. 12918-20; Vol. 76, Conrad, pp. 14891-92; PX 431-457; PX 223-463

Finding of Fact No. 44.

In late 1965 arrangements were completed whereby Whitin Machine Works would become merged with White Consolidated, Inc. This led to a decision by Henri Crouzet,

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President of ARCT-France to create an American subsidiary to handle sales of the product lines of ARCT-France, including its false twist machinery. Vol. 80, Waters, 15550-52.

A North Carolina corporation was chartered on February 7, 1966, under the corporate name ARCT, Incorporated, with ARCT-France owning sixty (60%) per cent of the outstanding stock, Robert F. Waters thirty-five (35%) per cent and Leo Soep the remaining five (5%) per cent. The corporate headquarters were established in Greensboro, North Carolina, in a single office with Waters as its first employee. Vol. 80, Waters, pp. 15552; 15567.

Henri Crouzet is and always has been President of ARCT-France; Robert F. Waters is and always has been Executive Vice President and Treasurer, and has been in direct charge and supervision of the day-to-day activities of the company.

As of the time ARCT, Inc. was formed, Robert F. Waters had sold a total of 265 ARCT false twist machines in the United States and Canada. These sales occurred during the years 1959 through 1965, inclusive. (PX 51-10; DX 846-33).

Every sale of new ARCT false twist machinery made in the United States from 1959 to date has been made personally by Robert F. Waters, Vol. 13, Waters, 2757-60; 2784-85; Vol. 80, Waters, 15556-7.

Record References:

Vol. 80, Waters, 15550-52; 15567; 15556-7;
DX 51-10;
DX 846-33;
Vol. 13, Waters, 2757-60; 2784-5.

*Adopted Findings—Horizontal Conspiracy**Finding of Fact No. 45.*

Immediately prior to the organization of ARCT, Incorporated, ARCT-France executed a new license agreement with White Consolidated, dated February 2, 1966, (DX 783-101) which gave White Consolidated the right to sell ARCT false twist machinery in the United States, Canada and Mexico. This agreement expressly provided that Robert F. Waters was released by Whitin and White Consolidated to participate freely in the sale of ARCT machinery, including employment by an American subsidiary of ARCT-France. (DX 783-101). Henri Crouzet requested this provision be included in the contract. No ARCT machine was ever sold by White Consolidated pursuant to this agreement.

Co-existing with the above agreement was an agreement between ARCT, Inc. and ARCT-France, (PX 208-1) dated February 7, 1966. The high regard which Henri Crouzet held for Robert Waters is exemplified by paragraph 12 of PX 208-1 wherein ARCT-France reserves the right to cancel the agreement on ten (10) days notice, if Waters ceases to be employed by ARCT, Inc.

From and after February 7, 1966, all sales of ARCT machinery in the United States and Canada were made by ARCT, Incorporated. Vol. 80, Waters, 15556-7.

Record References:

DX 783-101
PX 208-1
Vol. 80, Waters, 15556-7

Finding of Fact No. 47.

In 1966 when Robert F. Waters became Vice President and General Manager of ARCT, Inc., he had 23 years ex-

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perience in the textile industry, primarily as a salesman. He had always been a salaried employee, and his compensation was not measured in any respect by the volume of sales. He had never been a part of the management of Whitin Machine Works. Vol. 80, Waters, pp. 15547-48. The last 6½ years of his employment with Whitin Machine Works had provided him with an extensive knowledge and background in the area of sales and market demand for false twist machinery. During this 6½ year period, Waters had acquired the following information and knowledge:

—That DMRC held the use rights in the United States, Canada and Mexico to ARCT machinery and certain processes under patents owned by Chavanoz. DX 768-6.

—That ARCT-France held the manufacturing and sale rights under the same patents pursuant to an agreement with Chavanoz, and had the right and was willing to sublicense a U. S. company to manufacture and sell the ARCT machinery. DX 768-6.

—That ARCT-France was contractually committed to Chavanoz to sell its false twist machinery in the United States and Canada only to holders of a DMRC use license. Vol. 79, Waters, p. 15429.

—That this limitation had been included in the Whitin/ARCT-France agreement of February 20, 1959. PX 206-7; Finding of Fact No. 20 (supra).

—That some of the Chavanoz patents related to specific improvements on the ARCT false twist machinery, while others covered improvements which were not incorporated on the machinery which he was selling. PX 97-41.

—That patent litigation commencing in 1960, involving Leesona, Whitin Machine Works and Deering Milli-

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ken Research Corporation had been a strong deterrent to his efforts in the sale of ARCT machinery in the United States, and among other things had created apprehension on the part of prospective purchasers that in the event Leesona prevailed, such purchasers might be required to pay double royalties (Finding of Fact No. 40) supra.

—That in order to remove this apprehension on the part of purchasers, particularly in respect to the sale of a revolutionary machine (ARCT FT-3), in 1963, an escrow arrangement for royalties payable by licensees of DMRC had to be negotiated with DMRC; that as consideration for the escrow arrangement, DMRC had increased its royalty rate to 3½ per cent of the manufacturer's list price of yarn processed and in addition demanded compensation from Whitin Machine Works in the form of a royalty of 2 per cent on the ex works cost of each machine sold by Whitin. PX 296-12.

—That the patent litigation involving the Leesona patents had been settled by the principals thereto in the manner which as Waters understood it, eliminated the threat of suit by Leesona against future purchasers of ARCT machinery; that Waters had played no part in the settlement negotiations or preparation of the settlement documents. Vol. 13, Waters, p. 2787 (Finding of Fact No. 43, supra).

—That in the sale of machinery by Whitin, it had always been DMRC's position that no ARCT false twist machinery could be sold or delivered to a purchaser unless and until the purchaser was licensed by DMRC; PX 914-5324; Finding of Fact No. 29 (supra).

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—That in practice, he had always executed the Whitin sales contract before the customer executed DMRC license. Finding of Fact No. 39 (supra).

—That he had always regarded the executed contract between Whitin Machine Works and the purchaser of ARCT machinery as an obligation on the part of Whitin to deliver the machinery sold pursuant to the contract; Vol. 61, Reeves, p. 11998; Finding of Fact Nos. 75, 78 and 70.

—That during his 6½ years' experience in the sale of yarn texturing machinery, Leesona Corporation had been his principal competitor, and in 1966, was still his principal competitor; Vol. 80, Waters, p. 15651.

—That Norman Armitage of DMRC was a difficult person to negotiate with on any matter and that his personal relationship with Armitage had deteriorated over the 6½ year period during which Waters had been involved in the sale of ARCT machinery; that this conflict between Waters and Armitage was expressed by Waters shortly after ARCT, Inc. was formed when he wrote to Crouzet: "Norman is totally selfish in a monetary sense where D. M. R. C. activities are concerned. I have been equally selfish with respect to the ARCT machine interests." PX 209-103.

[Material not adopted.]

Record References:

Vol. 80, Waters, pp. 15547-48; 15651
DX 768-6
Vol. 79, Waters, p. 15429
PX 206-7
PX 97-41
PX 296-12
Vol. 13, Waters, p. 2787
PX 914-5324
Vol. 61, Reeves, p. 11998
PX 209-103

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Finding of Fact No. 48.

Henri Crouzet is and has been President of ARCT, Inc. since its incorporation. His background and knowledge of events are therefore imputable to ARCT, Inc.

Crouzet was first employed by ARCT-France in 1932 as an engineer. His duties included the design of textile machinery. He studied it at the Ecole des Artes et Metiers, earning the degree of Graduate Engineer, the equivalent of a Masters Degree in the United States. He specialized in mechanical engineering. Vol. 38, Crouzet, 7540-41. He still continued his engineering "while even now being President" (of ARCT-France). Vol. 38, Crouzet, 7542. His expertise as a designer of textile machinery is reflected in the world-wide acceptance of the products of ARCT-France. Its false twist machinery, and the improvements thereon—both patented and unpatented—provided the only viable and real competition for Leesona in the American false twist market from 1959 through the late 1960's.

[Material not adopted.]

Crouzet did not concern himself with the day to day operations of ARCT, Inc. Vol. 38, Crouzet, 7546. His knowledge of the DMRC licensing program was limited. Vol. 38, Crouzet, 7547.

As President of ARCT-France and ARCT, Inc. he did not concern himself with whether or not machines were being delivered only to licensees of DMRC in the United States. Vol. 38, Crouzet, pp. 7546, 7582. His primary concern was the sale of machinery.

His knowledge of the March 31, 1964, settlement agreement was limited. ARCT-France was not a party to the litigation in the United States. Leo Soep of Chavanoz had been granted a power of attorney to act for ARCT-France

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in the execution of the settlement agreements, which included a settlement of the Leeson/ARCT-France litigation in France. His only desire was to obtain freedom to sell machines without interference from Leeson. Vol. 38, Crouzet, p. 7665. He understood the settlement agreements permitted this. He knew nothing of the details of any discussions between the litigating parties leading up to the settlement. Vol. 38, Crouzet, p. 7665, 7669.

[Material not adopted.]

Record References:

Vol. 38, Crouzet, pp. 7540-42, 7546-47, 7582, 7665, 7669
DX 142-135, p. 1, last para.

Finding of Fact No. 72.

While Robert Waters was aware that Whitin was contractually required to sell ARCT machinery only to DMRC use licensees and although he did advise prospective customers of the need for a DMRC use license, he nevertheless considered as unworkable any procedure which would require that sales contracts not be completed and fully executed until after the use license was signed. Vol. 79, Waters, p. 15429-31. It was his opinion that the delays which would normally occur during licensing negotiations could result in the sale being lost to a competitor. Vol. 79, Waters, p. 15429-31. It is evident that he continued to consider such procedure as unworkable after ARCT, Inc. was chartered, as in every instance of a sale made by ARCT, Inc., the contract of sale was fully, finally and completely executed prior to the time the purchaser executed its DMRC license. (See Findings of Fact Nos. 54, 57, 60, 62, 65, 66, 67, 70.)

As indicative of the disregard by ARCT, Inc. of the policy of DMRC in respect to the order in which the sales contract and license were to be executed, attention is drawn

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to PX 953-3612 and PX 954-3623. In each of these letters, Manning of the DMRC General Licensing Division was forwarding to a prospective customer the DMRC use license. In each of these letters Manning advises the prospective customer as follows:

"When you have finalized the arrangements with ARCT, Inc. will you please sign both of the copies of the standard license agreement form and have them sealed and attested in the usual manner."

When PX 953-3612 and PX 954-3623 came to the attention of Norman Armitage on October 30, 1967, he questioned whether or not the content of these letters and in particular the portion quoted above was not a departure from earlier practice. He further stated that if it was not such a departure that perhaps the matter should be reconsidered. In Armitage's memo to Manning (DX 154-738), Armitage states:

"It has been our position that ARCT is not authorized to finalize arrangements until we inform them that the license agreement has been signed."

Notwithstanding the expressed policy of DMRC in respect to the order in which the contract and license should be finalized, ARCT, Inc. continued to execute its sales contracts in every instance prior to the time the purchaser executed its license with DMRC. (See Findings of Fact set forth above.)

Record References:

Vol. 79, Waters, p. 15429-31; PX 953-3612; PX 954-3623;
DX 154-738.

Finding of Fact No. 73.

Plaintiff, Spring-Tex, Inc., purchased used false twist machinery from Butte Knitting Mills (another plaintiff in

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this action—Jonathan Logan, Inc.). Spring-Tex, Inc. had no contact with ARCT, Inc. in respect of said purchase. DX 681, Vol. 73, Johnston, p. 14299. These machines were purchased by Spring-Tex, Inc., delivered and placed into operation several months prior to the execution of a DMRC use license by this plaintiff. Vol. 73, Johnston, p. 14299.

Record References:

DX 681
Vol. 73, Johnston, p. 14299

Finding of Fact No. 81.

On or about November 28, 1969, Robert F. Waters and ARCT, Inc., were presented with a problem which has never before arisen in connection with a prospective purchase of ARCT false twist machinery.

As of this date Leeson was in litigation with its licensees and the Duplan Corporation had brought suit against DMRC and Chavanoz in United States District Court for the Southern District of New York. Burlington Industries, Madison Throwing Co., Duplan Corporation, Dixie Yarns, Inc., Spring-Tex, Inc., Texfi Industries, Inc. (a client of Attorney David Rabin); Vol. 80, Waters, 15681, Lawrence Texturing Corp., had all ceased paying royalties to DMRC. DX 686-4138.

At a conference with Waters and his counsel, Rabin indicated that he represented James Hornaday, who was creating a new business under the name JAMVIR (sometimes referred to as "Guilford" or Carolina American Texturing Co., and also American Textured Yarn Co.) Rabin stated that Jamvir desired to purchase ARCT machinery, but that he would not permit them to execute the DMRC use license. He then asked if ARCT, Inc., would sell and

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deliver ARCT machinery to Jamvir *knowing prior to the execution of the sales contract* that the purchaser would not accept the DMRC use license. This was the first time in 10 years of selling ARCT machinery that Robert Waters had been presented with this question. Vol. 80, Waters, p. 15682.

Waters replied that he could not assume the responsibility and obviously had to refer the matter to Henri Crouzet, President of both ARCT, Inc., and of ARCT-France which held the controlling interest in ARCT, Inc. stock.

As a result of this conference, Arthur O. Cooke, counsel for ARCT, Inc., and Rabin met Henri Crouzet in Paris in order to ascertain, if possible, a solution to the problem. Vol. 80, Waters, p. 15684.

Crouzet replied to Robert Waters by letter of December 15, 1969, (PX 765-261) advising that as to licensed purchasers (Duplan, Joe Hamilton, Doug Blanchard) deliveries could continue as to them, and in respect to new customers Crouzet stated:

"As regards the non licensed new prospect customers, please will you lay down the case each time to us and do not consider the sale as impossible. We need to have definite examples to be discusse(d). We have indicated to Norman Armitage and M.R.C. (Chavanoz) that in any case, we would not accept to stop deliveries and refuse the customers, if other manufacturers, Leeson, for instance, keep on delivering."

In respect to Jamvir, problems of arranging for long term financing in the contemplated purchase of the machinery arose. These are evidenced by DX 819 (a composite exhibit) which indicates that it was not until July 1970 that final approval was obtained for the terms requested by

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Jamvir, such approval requiring the execution of a personal guaranty of payment and performance by Hornaday. Composite: DX 819 (Contract—Exhibit 8521).

Record References:

DX 686-4138
Vol. 80, Waters, 15681-84
PX 764-261
DX 819 (Composite)

Finding of Fact No. 82.

When confronted with the Jamvir demand for machines without a license and the receipt of Crouzet's letter of December 15, 1969 (PX 765-261), the situation as to deliveries without risk of attack by DMRC of machinery remained in a state of confusion. Although the major throwsters were not paying royalties and were in litigation, DMRC approved sales and delivery of machinery to them. (Vol. 25, Armitage, pp. 5235, 5253-4) Recognizing the possible consequences to its parent corporation if a flagrant and open defiance of ARCT-France's commitment to Chavanoz should occur, Waters wrote Crouzet on January 23, 1970 (PX 210-5236) stating that Crouzet was the *only* person who could direct such a course of action. It is significant that prior to the adoption of the "disclaimer" clause, Waters continued to deliver machinery to purchasers (Favilla Texturing, Inc. and Collins & Aikman, Inc.) who were not and never have been licensed. (Finding of Fact No. 75 and 78). These deliveries were made because of the contractual obligations which existed, and were created after January 23, 1970.

Record References:

PX 765-261
Vol. 25, Armitage, pp. 5235, 5253-4
PX 210-5236

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Finding of Fact No. 83.

Following institution of the suit by Duplan Corporation, in November, 1969, ARCT, Inc. was faced with numerous problems in respect to the sale of false twist machinery. Most, if not all, of these problems arose from unilateral actions taken by DMRC. In no instance was ARCT, Inc. or ARCT-France advised of DMRC's intended course of action, and all information concerning such activities came from customers and prospective customers of ARCT, Inc. Vol. 81, Waters, p. 15742-43. The first such problem was created when DMRC issued a press release (DX 763) in early February, 1970, announcing an increase in its royalty rate, effective March 1, 1970. This action was taken without prior notice to ARCT, Inc. or ARCT-France and DX 763 reads as follows:

"Deering Milliken Research Corporation of Spartanburg, S.C. has begun law suits against several of the 23 companies it licenses to use 'false twist equipment'. Companies being sued include Duplan, Burlington Industries and United Merchants and Manufacturers. To help defray expenses of the law suits Deering Milliken has announced an increase in royalties for all new licenses granted for use of the equipment. Effective March 1 new licenses will carry a royalty of 4 per cent of the manufacturer's list price of raw yarn converted to crimped yarn under its license. Existing licenses will not be affected by this increase Deering Milliken said in a prepared statement."

The impact on future sales by ARCT, Inc. of this increase at a time when two of the largest throwsters (Duplan and Burlington) were in litigation with DMRC and not paying royalties is obvious. It was a matter of genuine

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concern to Waters and created a serious question with prospective new purchasers.

Record References:

Vol. 81, Waters, p. 15742-43
DX 763

Finding of Fact No. 84.

Following the public announcement of an increase in royalty rates (Finding of Fact No. 83), DMRC elected to re-write the license being offered to prospective purchasers and to require the purchaser, as a condition to the grant of the license, to provide a *corporate surety bond guaranteeing the payment of royalties due under the license*. (PX 537-745; Vol. 25, Armitage, p. 5253; PX 829-747; PX 830-748; PX 543-5281)

At this time all Leesona licensees were in litigation with their licensor and had ceased paying royalties. All major licensees of DMRC were in litigation with it, and had ceased payment of royalties. (PX 538-749—Schedule 1, attached) (Vol. 81, Waters, pp. 15727-28, 15737-38)

In this atmosphere, ARCT, Inc. was preparing to introduce and had verbal orders for substantial numbers of the ARCT FT-F 480 machines. Macfield Texturing, Inc. was in process of constructing a multi-million dollar plant designed to receive the FT-F 480. Springtex, Inc. was likewise in process of constructing a plant. Both had *verbal* orders for FT-F 480 machines. (Vol. 81, Waters, pp. 15731-33)

Confronted with a situation where no major throwster was paying royalties and a demand by DMRC that new purchasers execute a surety bond (PX 830-748) to guar-

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antee payment of royalties under a new license agreement (PX 538-749), ARCT, Inc. learned on June 26, 1970, that Norman Armitage had threatened to institute an action in France to embargo (prevent the shipment of) ARCT machinery out of France to the United States unless the purchaser was licensed by DMRC. (Vol. 81, Waters, pp. 15738-42) (Vol. 25, Armitage, pp. 5198, 5243) Additionally, ARCT, Inc. was exposed to a suit for contributory infringement if it continued to deliver machinery to non-licensees (Vol. 78, Armitage, pp. 15313-15). (Findings of Fact Nos. 52 and)

All of the information regarding the new license and the requirement of a bond came from prospective customers of ARCT, Inc. and not from DMRC. (Vol. 81, Waters, pp. 15742-3)

Having been placed in a precarious position by the threat of an embargo, ARCT, Inc. was reluctant to execute further contracts for the sale and delivery of machinery, notwithstanding the market demand for the FT-F 480. Some customers (Regal Manufacturing Co.) had contracts. However, prospective customers such as Macfield and Spraytex were in serious difficulty.

McMichael (of Macfield) offered to execute the old DMRC license (DX 834; DX 835) in order that he might be placed in the same position as his future competitors, most of whom were in litigation with DMRC. (Vol. 81, Waters, pp. 15753-4) Crouzet desired to have this letter to demonstrate to Chavanoz that the difficulties DMRC was encountering and creating in the United States did "not initiate from us but from DMRC's behavior."

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The events of 1970 left ARCT-France and ARCT, Inc. with two options: (1) curtail sale of machinery to only those who were in litigation with DMRC (since DMRC took the unique position they were licensees and sales and deliveries could be made to them—a condition which continued until notices of cancellation were sent out—effective October 1, 1970) (Vol. 25, Armitage, pp. 5253-54, 5235), or (2) continue to sell and contract to sell and deliver as ARCT, Inc. had done in the past.

To protect itself and ARCT-France, ARCT, Inc. introduced the “disclaimer” clause in its sales contract (DX 821). From and after August 26, 1970, all contracts of ARCT, Inc. for the sale of ARCT false twist machinery have included the “disclaimer” paragraph.

Record References:

PX 537-745
Vol. 25, Armitage, pp. 5253, 5235
PX 829-747
PX 830-748
PX 543-5281
PX 538-749, Schedule 1, attached
Vol. 81, Waters, pp. 15727-42
DX 834, DX 835
Vol. 81, Waters, pp. 15753-54
DX 821

Finding of Fact No. 86.

On September 9, 1970, Armitage wrote to de Moncuit to advise that DMRC was cancelling the use licenses of fifteen of its licensees. (PX 548-287) Armitage then expressly reminded de Moncuit that he was obligated under Chavanoz’s agreement with DMRC to “take whatever steps are necessary” to insure that ARCT-France did not ship machinery to non-licensees, including those whose licenses were cancelled as of October 1, 1970. A copy of this letter was

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sent by Armitage to Crouzet so that ARCT-France could have the “earliest possible news of these cancellations”.

Mr. de Moncuit, on September 24, 1970, wrote to Crouzet calling to his attention the first sentence of paragraph 8 of the July 18, 1962 agreement between Chavanoz and ARCT-France, which reads:

“In accordance with the terms of the present contract the manufacturer may deliver the devices only to persons holding a process license granted by the patentee, except with the prior written authority of the patentee” (PX 1-221B)

and asked Crouzet to “let us know what steps you intend to take after October 1, to take the above into account.” (PX 550-286A)

Crouzet never replied to this inquiry and continued to deliver machinery to customers of ARCT, Inc. in the United States.

Record References:

PX 1-221B
PX 548-287
PX 550-286A

Finding of Fact No. 87.

ARCT, Inc. has never received from Deering Milliken Research Corporation or Chavanoz any portion of any production royalty paid by any throwster under DMRC use license relating to the use of ARCT false twist machinery.

Record References:

Vol. 78, Armitage, p. 15273
Vol. 80, Waters, p. 15561
Vol. 82, Waters, p. 15989

*Adopted Findings—Liability of DMI***Horizontal Conspiracy—Liability of DMI****Plaintiffs' Proposed Findings (Adopted):**

16.1 DMRC is a wholly-owned subsidiary of DMI and is operated solely for the benefit of DMI.

Annotations:

Vol. 6—p. 1255 (Armitage)

See Finding 1.6, *supra* re business of DMI

16.2 The Board of Directors of DMRC presently consists of Jerry Cogan, Roger Milliken, W. G. Humphrey, Ralph Gillespie, Thomas Malone and H. B. Rischer. Cogan is president of DMRC. Milliken is a director and chief executive officer of DMI. Humphrey, Gillespie, Malone and Rischer each heads up a major operating division of DMI.

Annotations:

Vol. 75—pp. 15,574-77 (Cogan)

16.3 Norman Armitage has been from time to time an officer of DMI as well as of DMRC. He regularly attended DMI management meetings. William Petry, DMRC's Chief Patent Counsel, has performed legal services for DMI.

Annotations:

PX 1297—DMI officers

Vol. 40—p. 7923 (Dekker): Armitage attended DMI management meetings

Vol. 46—p. 9228 (Petry): legal services for DMI.

Adopted Findings—Liability of DMI

16.4 DMRC's budget and expenses are covered annually by DMI. Financial transactions between DMRC and DMI are merely bookkeeping entries.

Annotations:

Vol. 74—p. 14,553, 14600 (Cogan): budget covered by DMI

Vol. 6—p. 1259 (Armitage): bookkeeping entries

16.5 DMRC's budget is not prepared with the idea of making a profit.

Annotations:

Vol. 6—p. 1257 (Armitage)

16.6 Management decisions of the entire Milliken organization, including DMRC, are formulated and approved at monthly "presidents' meetings." These meetings are attended by Roger Milliken, DMI's top operating officials and the presidents of other companies in the organization. DMRC's budget is submitted to the presidents' meeting for approval. Requests by DMRC for additional facilities must be presented and approved at presidents' meetings and must be specifically approved by Roger Milliken and other DMI personnel.

Annotations:

Vol. 74—pp. 14,551-52 (Cogan)

Vol. 75—pp. 14,596-99 (Cogan)

16.7 Milliken employees have been transferred back and forth between DMRC and DMI. Operating functions have been similarly transferred. For example, the Milliken organization's chemicals business was transferred from DMRC to DMI—apparently without compensation to

Adopted Findings—Liability of DMI

DMRC. Patents developed throughout the Milliken organization are assigned to DMRC.

Annotations:

Vol. 75—pp. 14,578-81, 14,594, 14,600-01 (Cogan)

16.8 All matters relating to accounting and computers, and most of DMRC's paperwork, are performed for DMRC by another branch of the Milliken corporation, the Deering Milliken Service Corporation. Royalty checks from DMRC licensees are sent to the Deering Milliken Service Corporation.

Annotations:

Vol. 75—p. 14,602-04 (Cogan)

PX 1296

16.9 Jerry Cogan, president and treasurer of DMI, testified that:

(a) He did not know whether DMRC maintained a separate checking account in the United States;

(b) He did not know what the capital of DMRC is;

(c) He did not know specifically what the assets of DMRC are; and

(d) He did not know the arrangement whereby DMRC leases its building from one of the Milliken Corporations.

Annotations:

Vol. 75—pp. 14,599; 14,594-96 (Cogan)

16.10 Information compiled by DMRC from licensee royalty reports has been forwarded to market research per-

Adopted Findings—Liability of DMI

sonnel of DMI who have, in turn, given such information to their counterparts at Leesona.

Annotations:

PX 1011

PX 1012

PX 1017-861

Vol. 47—pp. 9360-91 (Trizzino)

See Finding 15.73, *supra*.

16.11 DMI lends its size and financial resources to DMRC when it seems beneficial to do so. For example, counsel for DMI stipulated that DMI's "economic muscle" was taken into consideration by prospective licensees in deciding whether or not to sign the standard DMRC royalty agreement. In the litigation with Leesona, Roger Milliken met with Robert Leeson in January-February 1964 and helped precipitate the final settlement. Robert Leeson has testified that Leesona was up against an "antagonist who had about 15, 20, 50 times as much werewithal" as did Leesona. Leeson was obviously referring to the Milliken organization as a whole (not just DMRC), and counsel for the defendants have relied on that testimony.

Annotations:

Vol. 39—p. 7714 (Topkis)—statement re DMI power influencing throwsters to sign.

PX 338-2092)

PX 367-579)

PX 368-580)

PX 220-583)

—role of Roger Milliken
in settlement negotiations

Vol. 18—p. 3834 (Leeson)

Vol. 76—pp. 14929-30 (Conrad)

Vol. 18—p. 3797 (Leeson)—size of DMI vis-a-vis Leesona

Adopted Findings—Liability of DMI

16.12 In 1971 and 1972, DMI came to the aid of DMRC when Hoechst Fibers, a manufacturer of synthetic yarns, decided that its list price for filament yarns, as published in *Modern Textiles Magazine*, should be the same as or near the actual market price for such yarns. The sequence of events was as follows:

(a) The list prices published by Hoechst in the January 1972 and March 1972 issues of *Modern Textiles* were the same as or near its actual market prices.

(b) In 1971, Leslie Fay, a throwster then paying royalties to DMRC, was purchasing 150 denier polyester yarn from Hoechst. In December 1971, a representative of Leslie Fay notified Bruce Meredith, manager of textured yarn licensing for DMRC, that he had been informed by Hoechst that its list price for 150 denier polyester yarn had been reduced. This representative of Leslie Fay told Meredith he had a letter from Hoechst in which it was confirmed that Hoechst's list price for 150 denier polyester yarn had been reduced. Meredith stated that he would check into the matter.

(c) Meredith then contacted Henry Dekker, a vice president of Hoechst Fibers, regarding Hoechst's published list price for 150 denier polyester yarn. After at least two telephone calls from Meredith, Dekker wrote to Meredith on February 7, 1972 and reaffirmed the position taken with respect to list prices in Hoechst's letter of December 27, 1971 to Leslie Fay. After reaffirming this position, Dekker wrote: "Whereas I realize this does not serve your purposes, we do not want to become involved in the controversy between you and your licensees."

Adopted Findings—Liability of DMI

(d) During the period 1971-1972, DMI was a substantial purchaser of filament yarns from Hoechst accounting for approximately 15-20% of Hoechst's output. During this period, Sidney Nichols was in charge of fiber procurement for DMI. In late December 1971, Sidney Nichols called Jay Q. Wright, southern sales representative for Hoechst in charge of the DMI account, and requested that Hoechst go back to its old list price of \$1.58 per pound for 150 denier polyester yarn. The reason given by Nichols for this request was that royalties were based on list price. Wright replied that Nichols should consult Wright's superiors at Hoechst with respect to this matter.

(e) Thereafter, Nichols talked with Dekker by telephone on several occasions regarding Hoechst's published list price. Nichols complained about Hoechst's decision to publish a list price approximating the actual market price and told Dekker that Hoechst was the only fiber producer "not following the standard practice." Nichols told Dekker that royalties paid to DMRC were based on the published list price and that the published list price was therefore important to DMRC. By reason of these conversations with Nichols, Dekker believed that Hoechst's business with DMI was in jeopardy. As a result, Dekker wrote to Meredith on April 13, 1972 (a copy of that letter was sent to Nichols) and stated:

"After discussion this morning with Sidney Nichols, we have decided to reverse our position as taken in our letter of February 7, 1972. We are informing *Modern Textiles* that our list prices are, in fact, almost identical to those shown by other fiber companies in that magazine."

Adopted Findings—Liability of DMI

Dekker explained the policy reversal as follows:

"At the time I wrote to you on February 7, I felt it important to confirm the position taken by our Charlotte representative. However, I am now officially reversing it due to the problems it is evidently causing you and your relationships with licensees, as well as other companies" (PX 786-1760).

(f) As a result of pressure exerted by DMI on Hoechst, Hoechst reversed its policy of publishing in Modern Textiles list prices approximating its market prices and reinstated the policy of publishing "unreal" list prices. The purpose and effect of the pressure exerted by DMI was to maximize the royalties paid to DMRC by licensees who purchased Hoechst yarns for processing on ARCT machines.

Annotations:

- (a) Vol. 40—pp. 7876, 7883-84 (Wright)
 PX 783-1778) Modern Textiles, January
) and March 1972
 PX 784-1779)
- (b) Vol. 75—pp. 14,617-19 (Meredith)
 PX 785-1758
- (c) Vol. 40—pp. 7409-17 (Dekker)—calls from Meredith
- (d) Vol. 40—pp. 7873-75 (Wright)—call from Nichols
 Vol. 40—p. 7907 (Dekker)—DMI accounted for
 15-20% of output
- (e) Vol. 40—pp. 7917-20 (Dekker)—call from Nichols
 Vol. 40—p. 7919 (Dekker)—statement by Nichols
 about Hoechst being only producer not following
 standard practice
- (f) PX 786-1760) reversal of policy
 PX 787-1780) because of
 Vol. 40—pp. 7889-91 (Wright)) continued pressure
 Vol. 40—pp. 7922-23 (Dekker)) from Nichols

Opinion of the Court of Appeals

[Reported at 594 F.2d 979 (4th Cir. 1979)]

[979]

The DUPLAN CORPORATION, Burlington Industries, Inc., Dixie Yarns, Inc., Frank Ix & Sons Virginia Corporation, Hemmerich Industries, Inc., Jonathan Logan, Inc., Lawrence Texturing Corp., Leon-Ferenbach, Inc., (Division of Chromalloy-American Corp.), Madison Throwing Co., National Spinning Co., Inc., Reliable Silk Dyeing Co., Swarzenbach-Huber Co., (now by merger Indian Head, Inc., a Delaware Corp.), Spring-Tex, Inc., TexElastic Corporation, Texfi Industries, Inc., United Merchants & Manufacturers, Inc.,

Appellees,

v.

DEERING MILLIKEN INC., Deering Milliken Research Corporation, Moulinage et Retorderie De Chavanoz,

Appellants,

and

Ateliers Roannais De Constructions Textiles,
 and ARCT, Inc.,

Defendants.

The DUPLAN CORPORATION, Burlington Industries, Inc., Dixie Yarns, Inc., Frank Ix & Sons Virginia Corporation, Hemmerich Industries, Inc., Jonathan Logan, Inc., Lawrence Texturing Corp., Leon-Ferenbach, Inc., (Division of Chromalloy-American Corp.), Madison Throwing Co., National Spinning Co., Inc., Reliable Silk Dyeing Co.,

Fourth Circuit Opinion—594 F.2d 979 (1979)

Swarzenbach-Huber Co., (now by merger Indian Head, Inc., a Delaware Corp.), Spring-Tex, Inc., TexElastic Corporation, Texfi Industries, Inc., United Merchants & Manufacturers, Inc.,

Appellants,

v.

DEERING MILLIKEN INC., Deering Milliken Research Corporation, Moulinage et Retorderie De Chavanoz, Ateliers Roannais De Constructions Textiles, and ARCT, Inc.,

Appellees.

The DUPLAN CORPORATION, Burlington Industries, Inc., Dixie Yarns, Inc., Frank IX & Sons Virginia Corporation, Hemmerich Industries, Inc., Jonathan Logan, Inc., Lawrence Texturing Corp., Leon-Ferenbach, Inc., (Division of Chromalloy-American Corp.), Madison [1980] Throwing Co., National Spinning Co., Inc., Reliable Silk Dyeing Co., Swarzenbach-Huber Co., (now by merger Indian Head, Inc., a Delaware Corp.), Spring-Tex Inc., TexElastic Corporation, Texfi Industries, Inc., United Merchants & Manufacturers, Inc.,

Appellants,

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DEERING MILLIKEN INC., Deering Milliken Research Corporation, Moulinage et Retorderie De Chavanoz, Ateliers Roannais De Constructions Textiles, and ARCT, Inc.,

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Fourth Circuit Opinion—594 F.2d 979 (1979)

The DUPLAN CORPORATION, Burlington Industries, Inc., Dixie Yarns, Inc., Frank IX & Sons Virginia Corporation, Hemmerich Industries, Inc., Jonathan Logan, Inc., Lawrence Texturing Corp., Leon-Ferenbach, Inc., (Division of Chromalloy-American Corp.), Madison Throwing Co., National Spinning Co., Inc., Reliable Silk Dyeing Co., Swarzenbach-Huber Co., (now by merger Indian Head, Inc., a Delaware Corp.), SpringTex, Inc., TexElastic Corporation, Texfi Industries, Inc., United Merchants & Manufacturers, Inc.,

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DEERING MILLIKEN INC., Deering Milliken Research Corporation, Moulinage et Retorderie De Chavanoz,

Appellants,

and

Ateliers Roannais De Constructions Textiles,
and ARCT, Inc.,

Defendants.

Nos. 78-1024 to 78-1027.

United States Court of Appeals,

Fourth Circuit.

Argued Feb. 8 and Feb. 9, 1979.

Decided March 26, 1979.

[1981] Before BRYAN, Senior Circuit Judge, and HALL and PHILLIPS, Circuit Judges.

PER CURIAM:

In this consolidated patent-antitrust litigation involving the textile industry, defendants, Moulinage et Retorderie de Chavanoz (Chavanoz), Deering Milliken Research Corporation (DMRC) and Deering Milliken, Inc. (DMI) appeal the judgment of the district court against them for antitrust violations arising from a continuing horizontal conspiracy. Chavanoz and DMRC also appeal various holdings regarding the validity, infringement and misuse of certain patents held by Chavanoz. Plaintiffs cross-appeal the court's holding that no vertical antitrust conspiracy was established, as well as the dismissal of all claims against defendants Ateliers Roannais de Constructions Textiles (ARCT-France) and ARCT, Inc.¹

Judge Dupree's opinion, reported at 444 F.Supp. 648 (D.S.C. 1977), is admirably comprehensive in its detail of the facts and its discussion of the proof, and the inferences drawn from these premises are warranted and fair. So thorough, explicit and sound is the opinion that we are satisfied to affirm the decision of the district court upon Judge Dupree's opinion, with only one exception.

We reverse that portion of the district court's opinion, 444 F.Supp. at 689-91, entering judgment for defendants ARCT-France and ARCT, Inc.² The evidence is clear and conclusive that these defendants were active, knowing participants in the horizontal conspiracy.

¹ The district court reserved the issue of damages for later trial and we permitted this interlocutory appeal under 28 U.S.C. § 1292(b).

² ARCT-France holds exclusive rights to manufacture and sell machinery embodying the Chavanoz patents. Since its formation in 1966, ARCT, Inc. has been the exclusive United States distributor of the machines manufactured by ARCT-France.

The district court found that the 1964 settlement agreement was the core of a scheme to stabilize and maintain production royalties on false twist machines and to monopolize the United States market for [982] these machines. ARCT-France participated in the settlement negotiations through a representative, signed the final agreement, and subsequently participated in the day-to-day operation of the scheme. ARCT, Inc. is likewise culpable and cannot claim ignorance of the purpose or effect of the scheme; its stock was owned entirely by ARCT-France (60%), Soep, the ARCT-France representative in the settlement negotiations (5%) and Waters, an ARCT, Inc. executive with at least peripheral participation in the settlement (35%). The royalty system, which depended upon the restriction of machine deliveries to DMRC use licensees, could not have been maintained without the active co-operation of ARCT-France and ARCT, Inc.

Where, as here, the ARCT corporations were knowing participants in a scheme whose effect was to restrain trade, the fact that their motives were different from or even in conflict with those of the other conspirators is immaterial. Cf. *United States v. United States Gypsum Co.*, 422 U.S. 438, 98 S.Ct. 2864, 2873 n.13, 57 L.Ed.2d 854 (1978); *Albrecht v. Herald Co.*, 390 U.S. 145, 149-50, 88 S.Ct. 869, 19 L.Ed.2d 998 (1968). Similarly, it is no defense that their actions may have been reluctant or even coerced, *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 161, 68 S.Ct. 915, 92 L.Ed. 1260 (1948), or amounted to no more than adherence to prior practices, *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 253, 60 S.Ct. 811, 84 L.Ed. 1129 (1940).

Both ARCT-France and ARCT, Inc. knew that their co-operation was essential to successful operation of the

Fourth Circuit Opinion—594 F.2d 979 (1979)

scheme, and they gave that co-operation. Moreover, although a finding of benefit to the ARCT corporations is unnecessary to establish their liability, the district court's conclusion that no benefit obtained to them is clearly erroneous because the evidence conclusively shows that their co-operation was an implied condition to their continuance in business. See *Freed Oil Co. v. Quaker State Oil Refining Corp.*, 419 F.Supp. 479, 492 (W.D.Pa.1976). Their actions were more than sufficient to establish their liability as co-conspirators, and the judgment of the district court in favor of ARCT-France and ARCT, Inc. and awarding them costs is accordingly reversed.

AFFIRMED IN PART, REVERSED IN PART.